DOCUMENT RESUME

ED 227 274 CE 035 301

TITLE	Medical Service Specialist, Blocks I & II, 10-10. Military Curriculum Materials for Vocational and Technical Education.
INSTITUTION	Air Force Training Command, Sheppard AFB, Tex.; Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	11 Jul 75
NOTE	452p.; For related documents, see ED 226 238 and CE 035 302.
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE	MF01/PC19 Plus Postage.
DESCRIPTORS	*Allied Health Occupations Education; Behavioral Objectives; Course Descriptions; Curriculum Guides; Learning Activities; *Medical Assistants; *Medical Services; Nurses; *Nurses Aides; *Nursing Education; Postsecondary Education; Programed Instructional Materials; Safety; Textbooks; *Vocational Education; Workbooks
IDENTIFIERS	Military Curriculum Project

ABSTRACT

This first course of a two-course, postsecondary-level series for medical service specialists is one of a number of military-developed curriculum packages selected for adaptation to vocational instruction and curriculum development in a civilian setting. The purpose stated for the 50-hour course is to provide training in the basic theory and skills for providing nursing care and treatment to patients in medical wards, dispensaries, and clinics. Information and training is designed for students at the apprentice level. Two blocks of instruction cover Nursing Fundamentals I (ethics, medical terminology, anatomy and physiology, vital signs, admission and disposition of patients, hospital and environmental safety, lifting and moving, intake and output procedures, medical material procedures, and common disease-causing organisms) and Nursing Fundamentals II (diet, comfort and hygiene, medical and surgical aseptic techniques, application of heat and cold, and nursing care of surgical patient). Instructor materials include a course chart and plan of instruction detailing the units of instruction, criterion objectives, and support materials needed. Student materials include 12 study guides or workbooks with exercises and problems, four programed texts, and a handout of anatomical drawings. Suggested audiovisual aids are not provided. (YLB)

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MILITARY CURRICULUM MATERIALS

The military-developed curriculum materials in this course package were selected by the National Center for Research in Vocational Education Military Curriculum Project for dissemination to the six regional Curriculum Coordination Centers and other instructional materials agencies. The purpose of disseminating these courses was to make curriculum materials developed by the military more accessible to vocational educators in the civilian setting.

The course materials were acquired, evaluated by project staff and practitioners in the field, and prepared for dissemination. Materials which were specific to the military were deleted, copyrighted materials were either omitted or approval for their use was obtained. These course packages contain curriculum resource materials which can be adapted to support vocational instruction and curriculum development.

The National Center Mission Statement

The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOR FURTHER INFORMATION ABOUT
Military Curriculum Materials
WRITE OR CALL
Program Information Office
The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road, Columbus, Ohio 43210
Telephone: 614/486-3655 or Toll Free 800/848-4815 within the continental U.S. (except Ohio)

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Military Curriculum Materials for Vocational and Technical Education

Information and Field Services Division

The National Center for Research in Vocational Education

Military Curriculum Materials Dissemination Is . . .

an activity to increase the accessibility of military-developed curriculum materials to vocational and technical educators.

This project, funded by the U.S. Office of Education, includes the identification and acquisition of curriculum materials in print form from the Coast Guard, Air Force, Army, Marine Corps and Navy.

Access to military curriculum materials is provided through a "Joint Memorandum of Understanding" between the U.S. Office of Education and the Department of Defense.

The acquired materials are reviewed by staff and subject matter specialists, and courses deemed applicable to vocational and technical education are selected for dissemination.

The National Center for Research in Vocational Education is the U.S. Office of Education's designated representative to acquire the materials and conduct the project activities.

Project Staff:

Wesley E. Budke, Ph.D., Director
National Center Clearinghouse

Shirley A. Chase, Ph.D.
Project Director

What Materials Are Available?

One hundred twenty courses on microfiche (thirteen in paper form) and descriptions of each have been provided to the vocational Curriculum Coordination Centers and other instructional materials agencies for dissemination.

Course materials include programmed instruction, curriculum outlines, instructor guides, student workbooks and technical manuals.

The 120 courses represent the following sixteen vocational subject areas:

- Agriculture
- Aviation
- Building & Construction Trades
- Clerical Occupations
- Communications
- Drafting
- Electronics
- Engine Mechanics
- Food Service
- Health
- Heating & Air Conditioning
- Machine Shop
- Management & Supervision
- Meteorology & Navigation
- Photography
- Public Service

The number of courses and the subject areas represented will expand as additional materials with application to vocational and technical education are identified and selected for dissemination.

How Can These Materials Be Obtained?

Contact the Curriculum Coordination Center in your region for information on obtaining materials (e.g., availability and cost). They will respond to your request directly or refer you to an instructional materials agency closer to you.

CURRICULUM COORDINATION CENTERS

EAST CENTRAL
Rebecca S. Douglass
Director
100 North First Street
Springfield, IL 62777
217/782-0759

MIDWEST
Robert Patton
Director
1515 West Sixth Ave.
Stillwater, OK 74704
405/377-2000

NORTHEAST
Joseph F. Kelly, Ph.D.
Director
225 West State Street
Trenton, NJ 08625
609/292-6562

NORTHWEST
William Daniels
Director
Building 17
Airdustrial Park
Olympia, WA 98504
206/753-0879

SOUTHEAST
James F. Shill, Ph.D.
Director
Mississippi State University
Drawer DX
Mississippi State, MS 39762
601/325-2510

WESTERN
Lawrence F. H. Zane, Ph.D.
Director
1776 University Ave.
Honolulu, HI 96822
808/948-7834

MEDICAL SERVICE SPECIALIST, BLOCKS I & II

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MEDICAL SERVICE SPECIALIST, BLOCKS I & II

Classroom Course

10-10

Developed by:

United States Air Force

Development and Review Dates

July 11, 1975

D.O.T. No.:
079.368

Occupational Area:

Health

Target Audiences:

Grades 13-adult

Print Pages:
427

Cost:

Availability:
Military Curriculum Project, The Center for Vocational Education, 1960 Kenny Rd., Columbus, OH 43210

Contents:	Type of Materials:						Instructional Design:				Type of Instruction:	
	Lesson Plans:	Programmed Text:	Student Workbook:	Handouts:	Text Materials:	Audio-Visuals:	Performance Objectives:	Tests:	Review Exercises:	Additional Materials Required:	Group Instruction:	Individualized:
			No. of pages									
Block I – *Nursing Fundamentals I*	•	•	301	•	•	*	•	*	•	*	•	
Block II – *Nursing Fundamentals II*	•				•	*	•	*	•	*	•	

* Materials are recommended but not provided.

THE CENTER FOR VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY

Expires July 1, 1978

Course Description

This is the first of a two-course series for medical service specialist. The course includes training in the basic theory and skills for providing nursing care and treatment to patients in medical wards, dispensaries, and clinics. Nursing technologies, interpersonal relationships, communication and identification of human needs is emphasized. The information and training is designed for students at the apprentice (semi-skilled) level. This section consists of two blocks on nursing fundamentals comprising 50 hours of instruction.

Block I — *Nursing Fundamentals I* contains ten lessons covering 24 hours of instruction. Three lessons were deleted that discuss course orientation, medical service specialties, and transmission security. The included lesson topics and respective hours follow:

Ethics (1 hour)
Medical Terminology I (2 hours)
Anatomy and Physiology (6 hours)
Vital Signs (3 hours)
Admission and Disposition of Patients (5 hours)
Hospital and Environmental Safety (2 hours)
Lifting and Moving (2 hours)
Intake and Output Procedures (1 hour)
Medical Material Procedures (1 hour)
Common Disease Causing Organisms (1 hour)

Block II — *Nursing Fundamentals II* contains six lessons covering 26 hours of instruction. A lesson on communication practices was deleted because it discussed specific military forms.

Diet (1 hour)
Comfort and Hygiene (7 hours)
Medical Aseptic Techniques (6 hours)
Surgical Aseptec Techniques (6 hours)
Application of Heat and Cold (3 hours)
Nursing Care of the Surgical Patient (3 hours)

This section of the course contains both teacher and student materials. Printed instructor materials include a course chart and plan of instruction detailing the units of instruction, criterion objectives, the duration of the lessons, and the support materials needed. Student materials for Block I include seven study guide/workbooks with objectives, information, and exercises; four programmed texts on ethics, medical terminology, and common disease causing organisms; and a handout of anatomical drawings. Student materials for Block II consist of five study guide/workbooks.

This section of the course used with the second half, **Medical Service Specialist, Blocks III, V, & VI** (10-11), gives a comprehensive view of the medical services field. Some of these materials can be used for sub-units, remedial, and/or individualized study. The entire course can be used in a group instructional setting or adapted for individualized study.

Several military manuals and commercially produced texts were referenced, but are not provided. Audiovisuals suggested for use with the entire course include 19 films, 2 slide sets, and 19 transparency sets. The audiovisuals are not provided.

POI 3ABR90230
(PDS Code EML)

PLAN OF INSTRUCTION
(Technical Training)

MEDICAL SERVICE SPECIALIST

AIR TRAINING COMMAND

10-10
Blocks I & II

SHEPPARD TECHNICAL TRAINING CENTER

11 July 1975 - Effective 31 July 1975 with Class 750731

POI 3ABR90230

LIST OF CURRENT PAGES

This POI consists of 52 current pages issued as follows:

Page No.	Issue
Title	Original
A	Original
i	Original
1 thru 40	Original
Annex (9 Pages)	Original

DISTRIBUTION: AFMPC/SGE-2; ATC/SGHE-2; AUL-1; CCAF/AY-2; Sheppard: SGPM/200-1; MSOR-1; MSOXC-11; MSDN-55.

PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist
BLOCK TITLE Nursing Fundamentals I	

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
NOTE: For objectives in this POI which are knowledge-oriented and do not develop a skill, items on the written tests will serve as the required standard and condition.		
	4	Instructional Materials HO 3ABR90230-I-1, Welcome and Orientation ATC Programmed Text 52-11, Study Skills Sutton, Audrey, Bedside Nursing Techniques AFM 160-34, Medical Airmans Manual Assorted Administrative Forms Audio Visual Aids 35mm Slides/Cassette Tape, CCAF Set Transparencies, Orientation Set Training Methods Discussion (4 hrs) Instructional Environment/Design Classroom (4 hrs) Group/Lock Step Instructional Guidance Extend welcome. Explain course objectives in general terms and inform students that they will be given specific learning objectives at the beginning of each instructional hour. Explain in detail administrative procedures concerning resources available for academic assistance. Discuss other administrative procedures such as conduct, sleeping in class, outside area clean up, and classroom clean up. Have students complete administrative forms for course use. Explain emergency evacuation

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. I	PAGE NO. 1

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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES | 2 DURATION (HOURS) | 3 SUPPORT MATERIALS AND GUIDANCE

Instructional Guidance (Cont'd)
procedures for fire and disaster exercises. Students will also be provided information regarding chain of command, evaluation procedures, honor graduate program, counseling and assistance, individualized assistance, class leader, absence from class, break schedules, personal appearance and complaints. Students will complete portions of programmed text on study skills.

1

Column 1 Reference	STS Reference
2a	1d
2b	1c(1), 1c(2)
2c	1a, 1b

Instructional Materials
SW 3ABR90230-I-2, Medical Service Specialist/Technician Career Specialty

Training Methods
Discussion (1 hr)

Instructional Environment/Design
Classroom (1 hr)
Group/Lock Step

Instructional Guidance
Discuss subject matter with special emphasis on basic duties of the Medical Service Specialist.

3. Ethics

a. Select the ethical responsibilities of the Medical Service Specialist in professional and patient relationships.

1

Column 1 Reference	STS Reference
3a	5a, 5b

Instructional Materials
PT 3ABR90230-I-3, Ethics

Training Methods
Performance (1 hr)

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
	1	Instructional Environment/Design Laboratory (1 hr) Group/Lock Step Instructional Guidance Students will complete the programmed text in class. The instructor will introduce the subject, answer individual questions as needed and summarize. Column 1 Reference: 4a — STS Reference: 3a, 3b, 3c, 3d Instructional Materials SW 3ABR9XXXX/MO6M0104-T, Communications Security Training Methods Discussion (1 hr) Instructional Environment/Design Classroom (1 hr) Group/Lock Step Instructional Guidance Discuss the purpose and broad scope of the Air Force Security Program.
5. Medical Terminology I a. Define selected medical terms.	2	Column 1 Reference: 5a — STS Reference: 9a(1), 9a(13)(e), 9b(4)(a), 9b(8)(a), 9b(13)(a), 9b(17)(a) Instructional Materials PT 3ABR90230-I-5, Medical Terminology Vols 1, 2, 3, 4 Training Methods Performance (2 hrs) Instructional Environment/Design Laboratory (2 hrs) Group/Lock Step

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. I	PAGE NO. 3

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE

Instructional Guidance
Introduce subject and stress its importance for future training. Complete programmed text in class.

6. **Anatomy and Physiology** — 6

a. Select basic facts and terms related to the anatomy and physiology of the human body.

b. Match basic facts and terms related to the major systems of the human body.

Column 1 Reference	STS Reference
6a	9b(1)(b), 9b(2)(b), 9b(3)(b), 9b(4)(b), 9b(5)(b), 9b(6)(b), 9b(7)(b), 9b(8)(b), 9b(9)(b), 9b(15)(b), 9b(17)(b)
6b	9b(1)(b), 9b(2)(b), 9b(3)(b), 9b(4)(b), 9b(5)(b), 9b(6)(b), 9b(7)(b), 9b(8)(b), 9b(9)(b), 9b(15)(b), 9b(17)(b)

Instructional Materials
SW 3ABR90230-I-6, Anatomy and Physiology
HO 3ABR90230-I-6, Anatomical Drawings

Audio Visual Aids
Transparencies, Anatomy and Physiology Set
Charts, Anatomy and Physiology Set

Training Equipment
Model, Human Torso and Parts (28)

Training Methods
Discussion (3 hrs)
Performance (3 hrs)

Instructional Environment/Design
Classroom (3 hrs)
Laboratory (3 hrs)
Group/Lock Step

Instructional Guidance
Class will be a combination of discussion and directed work in the Studyguide/Workbook. Exercises in the SW will be accomplished during the course of the class hours. Two instructors will be used to give individualized assistance and guide with exercises.

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
7. Vital Signs a. Given the necessary equipment, accurately measure and record the temperature, pulse, respiration and blood pressure of a simulated patient (peer) to within the following variances of the instructor's reading of the same patient. Temperature: + or - 2° Pulse: + or - 2 Respiration: + or - 2 Blood Pressure: + or - 4	3	Column 1 Reference 7a STS Reference 5a, 5b, 5c, 8a(4), 9a(3) Instructional Materials SW 3ABR90230-I-7, Vital Signs Audio Visual Aids Sound on Slide, SOS-2, Vital Signs (15 min) Transparencies, Vital Signs Set Training Equipment Electronic Thermometer (28) Mercury Thermometer Tray (28) Stethoscope (2) Sphygmomanometer (2) Simulated Patient Units (2) Training Methods Discussion (1 hr) Performance (2 hrs) Instructional Environment/Design Classroom (1 hr) Laboratory (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter including terms, principles related to measuring and recording vital signs and use of equipment including clinical and electronic thermometer. Following demonstration students are divided into groups in a ratio of 1:8. Students work in pairs alternating roles as medical specialist and patient. Each student must measure and record vital signs of all patients in the group. The instructor will validate one "patients" recorded vital signs.

10

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES

8. Admission and Disposition of Patients

a. Select the administrative processes of inpatient services.

b. Given appropriate equipment accurately complete the admission process of a simulated patient (peer) to an inpatient unit. Sixty-five percent of the items on checklist 3ABR90230-I-8b must be accomplished.

2 DURATION (HOURS)

5

3 SUPPORT MATERIALS AND GUIDANCE

Column 1 Reference	STS Reference
8a	8a(4), 9a(4), 9a(7)(a), 9a(7)(b), 9a(7)(c), 9a(7)(d)
8b	5a, 5b, 5c, 9a(7)(a), 9a(7)(b)

Instructional Materials
SW 3ABR90230-I-8, Admission and Disposition of Patients
Assorted admission forms

Audio Visual Aids
Film, LFS 90-3, Admission and Disposition (17 min)

Training Equipment
Patient charts and chart holder (28)
Nursing Service Kardex (28)
Mercury thermometer tray (28)
Stethoscope (2)
Sphygmomanometer (2)
Simulated Patient Units (2)

Training Methods
Discussion (2 hrs)
Performance (3 hrs)

Instructional Environment/Design
Classroom (2 hrs)
Laboratory (3 hrs)
Group/Lock Step

Instructional Guidance
Discuss the administrative process for admission, transfer and discharge of patients. Discuss maintenance of patients records during hospitalization. Include as part of the admission process, hospital and ward orientation and ward rules. In the laboratory instructor student ratio 1:8. Students work in pairs alternating roles as medical specialist and patient. Each student must take and record vital signs, height and weight. They also accomplish a brief patient interview, write admission nursing notes and assemble portions of an inpatient clinical record. Preparations of patients for

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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
		Instructional Guidance (Cont'd) physical examination will be discussed. Appropriate general housekeeping procedures will be performed including cleaning of equipment used in laboratory practice.
9. Hospital and Environmental Safety a. Select basic facts and principles related to maintaining a safe patient environment. b. Choose correct hospital procedures for preventing hospital sepsis.	2	Column 1 Reference — STS Reference 9a — 4a, 4b, 4c 9b — 9a(8)(b)6, 9a(8)(d) Instructional Materials SW 3ABR90230-I-9, Hospital and Environmental Safety Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss and identify basic factors related to hospital safety practices for both patient and staff. Discuss correct procedures for adherence to established standards of sanitation.
10. Lifting and Moving a. With instructor guidance demonstrate the ability to correctly and safely lift and move a helpless patient (peer). Sixty-five percent of the items on checklist 3ABR90230-I-10 must be accomplished.	2	Column 1 Reference — STS Reference 10a — 4a, 4b, 5b, 5c, 9a(5)(f), 9a(5)(g) Instructional Materials SW 3ABR90230-I-10, Lifting and Moving Training Equipment Wheelchair (8) Stretcher, wheeled (8) Simulated Patient Unit (2)

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Training Methods Discussion (1 hr) Demonstration/Performance (1 hr) Instructional Environment/Design Classroom (1 hr) Laboratory (1 hr) Group/Lock Step Instructional Guidance Following discussion and demonstration students work in pairs in the laboratory. Instructor student ratio 1:8. Alternating roles as medical specialist and patient, each medical specialist must accomplish basic lifting and moving procedures. Principles of safety are established for both the patient and the specialist.
11. Intake and Output Procedures a. Select basic facts and principles related to intake and output procedures.	1	Column 1 Reference: 11a STS Reference: 8a(4), 9a(6) Instructional Materials SW 3ABR90230-I-11, Intake and Output Procedures Audio Visual Aids Transparencies, Intake and Output Set Training Methods Discussion (1 hr) Instructional Environment/Design Classroom (1 hr) Group/Lock Step Instructional Guidance Discuss principles and methods of measuring and recording accurate intake and output.

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
12. Medical Materiel Procedures a. Select basic facts and principles related to medical materiel procedures.	1	Column 1 Reference 12a — STS Reference 7a, 7b, 7c Instructional Materials SW 3ABR90230-I-12, Medical Materiel Procedures Audio Visual Aids Transparencies, Medical Materiel Set Training Methods Discussion (1 hr) Instructional Environment/Design Classroom (1 hr) Group/Lock Step Instructional Guidance Discuss facts and principles related to medical materiel procedures including preparation of issue/turn-in requests for supplies and equipment and report of survey system.
13. Common Disease Causing Organisms a. Select basic facts and terms related to common disease causing organisms.	1	Column 1 Reference 13a — STS Reference 9a(8)(a), 9b(13)(a) Instructional Materials PT 3ABR90230-I-13, Common Disease Causing Organisms Training Methods Performance (1 hr) Instructional Environment/Design Laboratory (1 hr) Group/Lock Step Instructional Guidance The instructor will clarify the subject, give instructions, and answer individual questions as needed. Have students complete programmed text in class.

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
14. Related Training (identified in course chart)	10	
15. Measurement Test and Test Critique	2	
a. Measurement test		
b. Test critique		

15

PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist
BLOCK TITLE Nursing Fundamentals II	

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
	2	Column 1 Reference: 1a — STS Reference: 5c Instructional Materials SW 3ABR90230-II-1, Communication Practices Audio Visual Aids Film Strip FS-9, Communicating Face to Face (15 min) Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss verbal and non-verbal communications as related to the medical service specialist in the patient environment. As time permits involve the students in the communicative process.
2. Diets a. Select facts and terms related to basic nutrition and diet therapy. b. Identify factors involved in safely and tactfully serving a food tray and assisting a patient to eat.	1	Column 1 Reference — STS Reference 2a — 5a, 5b, 5c, 9a(2), 9a(9)(a) 2b — 5a, 5b, 5c, 9a(2), 9a(9)(b) Instructional Materials SW 3ABR90230-II-2, Diets Training Equipment Diet Cart (28) Training Methods Discussion (.7 hr) Demonstration (.3 hr)

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Instructional Environment/Design Classroom (1 hr) Group/Lock Step Instructional Guidance Discuss subject matter followed by demonstration of serving diets and assisting patients. Diet cart to be obtained from Diet Therapy course.
3. Comfort and Hygiene	7	Column 1 Reference — STS Reference 3a — 9a(5)(a), 9a(5)(b), 9a(5)(c), 9a(5)(d), 9a(5)(e) 3b — 4a, 4b, 5a, 5b, 9a(5)(b), 9a(5)(c), 9a(5)(d), 9a(5)(e) 3c — 4a, 4b, 9a(5)(a), 9a(8)(b)3
a. Select the nursing procedures and terms related to the comfort and personal hygiene of a patient.	(1)	Instructional Materials SW 3ABR90230-II-3, Comfort and Hygiene
b. Given instructor guidance and necessary equipment, correctly provide routine morning comfort and hygiene measures for a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-II-3b must be accomplished.	(4)	Audio Visual Aids Film, AVA 6188, Comfort-Hygiene of the Patient (28 min) Film, The Decubitus Ulcer (21 min) Transparencies, Comfort and Hygiene Set
c. Given the necessary linen, correctly make a closed hospital bed. Sixty-five percent of the items on checklist 3ABR90230-II-3c must be accomplished.	(2)	Training Equipment Simulated patient units (2) Training Methods Discussion (2 hrs) Demonstration/Performance (5 hrs) Instructional Environment/Design Classroom (2 hrs) Laboratory (5 hrs) Group/Lock Step

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Instructional Guidance Discuss subject matter and follow with laboratory performance. Instructor student ratio 1:8. Students work in pairs alternating roles as medical specialist and patient to accomplish routine morning comfort and hygiene procedures. Each student must perform oral hygiene, administer a bedpan, give a bed bath, and back rub. Student will make an occupied and unoccupied bed and accomplish routine unit housekeeping duties.
4. **Medical Aseptic Technique** a. Select basic facts and principles related to medical aseptic techniques. b. Given the necessary equipment and using principles of medical aseptic technique, correctly enter and leave a simulated strict isolation unit. Sixty-five percent of the items on checklist 3ABR90230-II-4b must be accomplished.	6	**Column 1 Reference** — **STS Reference** 4a — 9a(8)(b)1, 9a(8)(b)2, 9a(8)(b)3, 9a(8)(b)4, 9a(8)(b)5, 9a(8)(c), 9a(8)(d), 9b(13)(b), 9b(13)(c)1 a, 9b(13)(c)1 b, 9b(13)(c)1 c, 9b(13)(c)1 d, 9b(13)(c)2 4b — 4a, 4b, 9a(8)(b) 1, 9a(8)(b) 2, 9a(8)(b)3, 9a(8)(b)4, 9a(8)(b) 5, 9a(8)(c), 9a(8)(d) **Instructional Materials** SW 3ABR90230-II-4, Medical Aseptic Technique **Audio Visual Aids** Slide Tape Presentation, Medical Aseptic Technique **Training Equipment** Reusable or Disposable Isolation Gown (1) Mask (1) Surgical Gloves (1) Simulated Isolation Room (3) **Training Methods** Discussion (2 hrs) Demonstration/Performance (4 hrs) **Instructional Environment/Design** Classroom (2 hrs) Laboratory (4 hrs) Group/Lock Step

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. II	PAGE NO. 13

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
		Instructional Guidance Discussion of subject material followed by demonstration and laboratory performance. Instructor student ratio: 1:8. Students are divided into groups and practice the procedure to enter and leave a strict isolation unit before performing a progress check. Communicable Disease Center concepts of isolation will be used as guidelines.
5. Surgical Aseptic Technique a. Select basic facts and principles related to surgical aseptic techniques. b. Given the necessary equipment, use the principles of surgical aseptic technique to change a surgical dressing on a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-II-5b must be accomplished.	6	Column 1 Reference — STS Reference 5a — 9a(C)(e)1, 9a(8)(e)3, 9a(8)(f) 5b — 4a,4b, 5a,5b, 5c, 9a(8)(e)1, 9a(8)(e)3 Instructional Materials SW 3ABR90230-II-5, Surgical Aseptic Techinique Audio Visual Aids Filmstrip, FS-23, Sterile Technique and Dressing Change (25 min) Training Equipment Sterile Gloves (1) Sterile Dressing Packs (1) Adhesive Tape (8) Gauze or Twill Ties (1) Manikin (2) Simulated Patient Unit (2) Training Methods Discussion (2 hrs) Demonstration/Performance (4hrs) Instructional Environment/Design Classroom (2 hrs) Laboratory (4 hrs) Group/Lock Step

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Instructional Guidance Discuss basic facts and principles related to surgical aseptic technique, including sterilization of equipment and supplies. Laboratory instructor student ratio: 1:8. Demonstrate to each group the precise procedure for donning sterile gloves, preparing a sterile field, and changing a surgical dressing. Have students practice donning gloves during the first portion of the laboratory time, then practice preparation of a sterile field and apply a dressing before accomplishing progress check.
6. Application of Heat and Cold a. Select basic facts and principles related to the application of heat and cold for therapeutic purposes. b. With instructor guidance and given the necessary equipment, correctly apply external heat and cold to a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-II-6b must be accomplished.	3	Column 1 Reference — STS Reference 6a — 9a(8)(e)2 6b — 5a, 5b, 5c, 9a(8)(e)2 Instructional Materials SW 3ABR90230-II-6, Application of Heat and Cold Training Equipment Aquamatic K-pad (2) Bath Towels (2) Rubber sheets (2) Pillow case (2) Simulated Hot plate (2) Sterile Gloves (1) Flask normal saline (2) Pkg 4x4 gauze sponges (28) Simulated Patient Units (2) Training Methods Discussion (1.5 hrs) Demonstration/Performance (1.5 hrs) Instructional Environment/Design Classroom (1.5 hrs) Laboratory (1.5 hrs) Group/Lock Step

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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES

7. **Nursing Care of the Surgical Patient**

a. Select the basic patient needs and nursing care approaches for the surgical patient.

b. Given the necessary equipment, and instructor guidance, correctly prepare a complete postoperative unit. Sixty-five percent of the items on checklist 3ABR90230-II-7b must be accomplished.

2 DURATION (HOURS)

3

3 SUPPORT MATERIALS AND GUIDANCE

Instructional Guidance
Discuss subject matter followed by demonstration and laboratory practice. Laboratory instructor student ratio 1:8. Students work in pairs, alternating roles as medical specialist and patient. Students perform a variety of therapeutic heat and cold procedures, i.e., application of hot water bottle, moist heat compresses, ice collar. Precise instructor guidance must be given to prevent heat or cold injuries to students.

Column 1 Reference	STS Reference
7a	9a(10)(a), 9a(10)(b)1a, 9a(10)(b)1b, 9a(10)(b)1c, 9a(10)(b)1d, 9a(10)(b)2, 9a(10)(c), 9a(11)(a), 9a(11)(b)1a, 9a(11)(b)1b, 9a(11)(b)1c, 9a(11)(b)1d, 9a(11)(b)2
7b	5a, 5b, 5c, 9a(11)(a), 9a(11)(b)1a, 9a(11)(b)1b, 9a(11)(b)1c, 9a(11)(b)1d, 9a(11)(b)2

Instructional Materials
SW 3ABR90230-II-7, Nursing Care of the Surgical Patient

Audio Visual Aids
Film, AVA 618A, Postoperative Bed (14 min)

Training Equipment
Stethoscopes (2)
Sphygmomanometers (2)
Intravenous Solution Tray (28)
Portable IV Pole (28)
Surgical Litter (28)
Simulated Patient Unit (2)
Bed IV Pole (2)

Training Methods
Discussion (1.5 hrs)
Demonstration/Performance (1.5 hrs)

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. II	PAGE NO. 16

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
		Instructional Environment/Design Classroom (1.5 hrs) Laboratory (1.5 hrs) Group/Lock Step Instructional Guidance Discuss subject matter, followed by demonstration and laboratory practice. Instructor/Subject Ratio 1:8 in laboratory. Each student makes a post-operative bed, and assembles the equipment necessary to receive a post-operative patient on a nursing unit.
8. Related Training (identified in course chart)	10	
9. Measurement Test and Test Critique a. Measurement Test b. Test Critique	2	

PROGRAMMED TEXT
3ABR90230-I-3

Technical Training

Medical Service Specialist

ETHICS

October 1975

10-10
Block I

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

23

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

PT 3ABR90230-I-3
October 1975

ETHICS

OBJECTIVE

Select the ethical responsibilities of the Medical Service Specialist in professional and patient relationships.

INTRODUCTION

In the medical service we have a chain of command through which policies, orders, and information pass. Because each person is responsible to his supervisors, those he supervises and his coworkers, this information must move up and down the chain of command.

To fully explain the chain of command, we would have to investigate all these areas. When you complete this course you will be working in a nonsupervisory position. Therefore, we will omit the area of supervisor's responsibility to his subordinates. We will concentrate on investigating our responsibility to our supervisors, coworkers, patients, and patients' visitors.

INFORMATION

You may be required to care for a patient who has access to classified information; therefore, you will learn the proper steps to take in safeguarding this information should it accidentally be compromised.

In the final section of the lesson, you will learn how to perform reception duties as they apply to a nursing situation.

MEDICAL ETHICS

1. Ethics may be defined as a set of principles on which a person can base decisions of right and wrong. These principles are not itemized in reference materials as laws are, but are the underlying reasoning leading up to a series of similar decisions. The result is that the decisions set a precedent and the practice becomes accepted.

From the statements listed below select the correct statement(s) based on the paragraph you just read. Circle the letter to the left of your choice(s).

a. Ethics are laws.

b. Ethical principles are used to make decisions of right and wrong.

c. Ethical principles are itemized in several reference books.

d. One cannot usually find ethical principles itemized.

This supersedes PT 3ABR90230-I-7, June 1975.

24

/ / / / / / / / / /

b - d

/ / / / / / / / / /

2. The development of a code of ethics is an essential characteristic of a profession, or specialized work group. It provides a method for the group to establish standards of acceptable behavior and a means whereby these standards may be maintained and improved. This code also indicates the group's acceptance of the responsibility it has to its society. Each person, upon entering the group, must therefore accept a measure of this code in order to function in an ethical manner in performing his duties.

From the following statements select the choice(s) that best complete(s) these statements. Circle the letter to the left of your choices.

A code of ethics indicates

a. a group to be defined as different.

b. a group wants to discourage new members.

c. there is not enough law to adequately cover the profession's work.

d. a group's acceptance of its responsibility to society.

/ / / / / / / / / /

d

/ / / / / / / / / /

A code of ethics provides a group with a method to

a. establish, improve and maintain standards.

b. establish, improve and disrupt standards.

c. establish a way for the group to protect itself from prosecution.

d. isolate the group from the society it serves.

/ / / / / / / / / /

a

/ / / / / / / / / /

Does everyone that enters a profession or specialized work group have to accept a portion of that group's code of ethics?

a. Yes

b. No

c. If he does not, he is immuned to the group's code.

25

/ / / / / / / / /

a

/ / / / / / / / /

3. Functioning within the health care field, medical personnel have developed a code ethics that has made these occupations some of the most respected careers to pursue. This code is referred to as "Medical Ethics."

Like other codes of ethics, Medical Ethics has not been defined in step-by-step format. Instead it is found to be the supporting reasoning for acceptable practices.

From the choices listed below, select the statement(s) that best complete(s) the following:

Medical Ethics apply to

a. doctors only.

b. doctors and nurses.

c. all persons or groups of people working in the health care field.

/ / / / / / / / /

c

/ / / / / / / / /

4. You as a Medical Service Specialist are entering the Nursing Care segment of the Health Care field. You are a part of the nursing team and therefore expected to accept a portion of the Code of Medical Ethics that applies to the nursing care of patients. This may be basically stated as follows, "Your ethical responsibility to the Nursing Care of patients will be to assist in the conservation of life, relief of suffering and promotion of health."

From the statements listed below select the choice(s) that best answer(s) the following. (Circle the letter to the left of your choice(s)).

A Medical Service Specialist is in the Health Care field of

a. medicine.

b. nursing.

c. research.

d. outpatient receptionist.

/ / / / / / / / /

b

/ / / / / / / / /

Complete the following statement by filling in the blank spaces with the words that will make the statement true according to the paragraph you just read.

Your ______________ responsibility to the nursing care of patients will be to assist in the ________________ of life, ___________________ of suffering and the ___________ of _____________________________________.

/ / / / / / / / / /

ethical - conservation - relief - promotion - health

/ / / / / / / / / /

5. Now that you can define ethics and Medical Ethics and you know the purposes of each, we can proceed to the next area. We will now develop your ethical responsibility to your supervisor, co-workers, patients and your patient's visitors.

/ / / / / / / / / /

No response required

/ / / / / / / / / /

SUPPORT YOUR SUPERVISOR

6. Your supervisor will most likely be the noncommissioned officer in charge (NCOIC) of the hospital section in which you are working. This section could be a ward or outpatient clinic. Since the NCOIC is responsible for the entire section, you are expected, by ethics, to respect the position he fills. You are a member of the team, your supervisor is the coach. As the coach, he must consider the objectives of the team and assign duties to each team member so as to accomplish these objectives. Each member will contribute to the total effort within his trained limits. With this in mind, it is easy to see why you must accomplish each task you are assigned to the best of your ability and report back to your supervisor when you have completed the task.

From the choices listed below circle the letter to the left of the definition of ethics and check the statement(s) that illustrate respect for your supervisor's position.

a. A set of principles in which we may base decisions of right and wrong.

b. You are told to change a dressing 10 minutes before the end of shift; you do it because you will be punished if you refuse.

c. You are told to change a dressing 10 minutes before going off duty; you change the dressing and report back to your supervisor when you have finished to let him know the job has been done.

d. When told to change a dressing 10 minutes prior to the end of the shift, you tell another specialist with less rank to do it.

/ / / / / / / / / /

Circle a - Check c

/ / / / / / / / / /

27

7. Another aspect of ethical support of your supervisor is your respect for the orders he issues. In his capacity as overseer and coordinator of nonprofessional nursing personnel, he must direct the action of each person to achieve the team's objectives. His directions may come in the form of a request, suggestion or an order. All three forms of directions should be considered an order unless we are told specifically by our supervisor that his suggestion or request was not intended to be an order.

Fill in the blanks with the correct words that will make the statement true according to the paragraph you just read.

Directions from our supervisor may come in the form of ______________________________,

______________________________ or an ______________________________.

/ /

suggestion, request, order (any order)

/ /

8. Our respect for his orders is derived from the knowledge that our supervisor is in his present position because he has demonstrated to his superiors (his supervisors) that he was capable of doing that job. When we understand this point we can see that in assigning us work, he is not trying to impress us with his ability. This means he must be considering the team members' capabilities, the team objectives and the best coordination of both.

Circle the letter to the left of the correct response(s) to the questions below.

When a supervisor assigns us a task he has considered

a. the rank of the individuals he has to choose from.

b. the team's objectives.

c. how much work each team member has already done.

d. each team member's capabilities.

e. coordination of team members' capabilities to the objectives of the team.

/ / / / / / / / /

b - d - e

/ / / / / / / / /

9. We now know why we should respect our supervisor's orders. We will now see what true respect for his orders is.

To show respect for our supervisor's orders we should listen carefully to what he is saying, question him on points we do not understand to clarify the order, and then accomplish the task in the manner we were trained to do it.

28

Fill in the blank spaces below with the words that will make it a true statement according to the paragraph you just read.

To show respect for an order we must _____________ to the order, _____________ points we do not understand and _____________ the task in the manner we were trained to do it.

/ / / / / / / / / /

listen - question - accomplish

/ / / / / / / / / /

From the choices listed below circle the letter to the left of the statement(s) that illustrates respect for our supervisor's orders.

a. Ask our supervisor why he chose use to do the task and then do it.

b. Ask our supervisor which patient he wanted moved to the private room.

c. Before going to clean the utility room remind our supervisor that we just did the nurses' station; could someone else help with this task.

d. Tell your supervisor you will do the task as soon as you can get to it.

e. Doing the task assigned to you and then returning to your normal duties.

/ / / / / / / / / /

b - e

/ / / / / / / / / /

10. Respect for our supervisor's position and orders are easy to understand because they come with personal contact with the person filling the position or issuing the order. The third area that we are ethically expected to support our supervisor is respect for the policies he enforces.

Policies are defined as definite courses of action adopted for the sake of expediency. Policies are adopted from prior experience. They are adopted to provide a basis for making decisions and issuing orders. Policies keep the entire organization moving on a straight line toward its goal. The members of an organization that have clearly defined policies know the limits within which they may effectively function.

In the space below write the definition of a policy.

/ / / / / / / / / /

A definite course of action adopted for the sake of expediency. (A statement having the same meaning is acceptable).

/ / / / / / / / / /

From the following choices, circle the letter to the left of the statement(s) that illustrates a policy.

a. A Medical Service Specialist will maintain therapeutic equipment.

b. Medical Service Specialists may not administer drugs intravenously (into the vein).

c. Amn Edwards, please clean the thermometer tray.

d. Amn Edwards will care for the patients in room 5.

/ / / / / / / / / /

a - b

/ / / / / / / / / /

11. Since policies are constructed for the smooth operation of an organization, it is your supervisor's responsibility to enforce them. Your responsibility is to respect the policies that your supervisor enforces. When you maintain a respect for these policies it makes harmony between you and your supervisor possible because you can anticipate the general responsibilities and rewards you will be receiving.

From the list below select an example of respect for the following ward policy. "Each shift will report to work 15 minutes early to listen to the nurse's report on patients you will be caring for."

a. Report to work 15 minutes early but don't listen to report.

b. Report to work 15 minutes early and listen to report most of the time.

c. Show up for work exactly at 1600 to start work. You figure you can go through the Doctor's orders on your patients. You therefore don't need a report.

d. Report to work 15 minutes early and listen to report every day you are assigned.

/ / / / / / / / / /

d

/ / / / / / / / / /

Now turn the page and do the exercise.

EXERCISE

From column B, select the correct match to the words or statements in column A by placing the number in the blank space provided at the left of column A.

Column A

(_____) a. Ethics

(_____) b. Policy

(_____) c. Forms of directions

(_____) d. Respect for supervisor's orders

(_____) e. Respect for supervisor's position

(_____) f. Respect for policy our supervisor enforces

Column B

1. Listen to, question, clarify, and do as you have been trained to do.

2. Suggestion, request, order.

3. Accomplish a task we are assigned to the best of our ability and report the results to our supervisor.

4. Definite course of action adopted for expediency.

5. A medical service specialist does not do a task he feels he can accomplish because it is not permitted to be done by anyone other than a nurse or a doctor.

6. A set of principles on which a person bases decisions of right and wrong.

Correct responses on next page.

Correct responses to exercise:

a. (6)

b. (4)

c. (2)

d. (1)

e. (3)

f. (5)

Instructions

If you answered five or more correctly, continue to the next section. If you missed 2 or more questions, review the material that you did not understand before continuing to the next section.

/ / / / / / / / / / / / / / / / /

SUPPORT YOUR COWORKERS

12. You learned how you are ethically obliged to support your supervisor. Now let us approach the area of ethical support to our coworkers. We will explore and develop four ways in which this ethical obligation can be satisfied.

The way we accomplish our assigned tasks is the primary way we are ethically obligated to support our coworkers. Our supervisor will determine what our fair shar of the team's objective is, therefore we do not need to be concerned with that area. What we must always be concerned with is how we do each task we are assigned. We must do them correctly the first time. Time spent redoing a task is time that could have been spent sharing the work load in other areas of the section. If we are not available in those areas someone else will be doing his share and ours.

Complete the following statement by filling in the blanks with the words that will make the statement true according to the paragraph you have just read.

The first way we are ______________ obligated to support our coworkers is to do our assigned tasks __________________________ the _______________ time.

/ / / / / / / / / /

ethically - correctly - first

/ / / / / / / / / /

Circle the letter to the left of the choice(s) that correctly completes the following statement.

The above paragraph implies

a. Every specialist must do his share.

b. Take short cut to get the job done fast.

c. Supervise other specialists so you will not have to redo their work.

d. A specialist can best do his share of the work by doing the task he is assigned correctly the first time.

/ / / / / / / / / /

a - d

/ / / / / / / / / /

13. A second way we are ethically obligated to support our coworkers is by assisting them when they are having difficulty. There will be times when you are not busy and a coworker needs help. You are obligated to offer this help to him. The help may be mental in nature, ex: answering his questions about how to accomplish a procedure. It may be physical, ex: assisting him in moving a patient or setting up a room for an examination. Even though your coworker may ask for this help as a favor, you cannot consider you assistance a favor. Remember ethics states "you will offer assistance to your coworkers whenever they need it." That statement makes your assistance part of your share of the team effort.

Complete the following statement by filling in the blank spaces with the words that will make it correct according to the paragraph you just read.

We are ____________________ obligated to support our coworkers by ________________

them when they are having ____________________.

/ / / / / / / / / /

ethically - assisting - difficulty
(or words meaning the same)

/ / / / / / / / / /

Complete the following statement by underlining the correct phrase in parenthesis.

The assistance we extend to our coworkers is considered (a favor) (our share of the team effort).

/ / / / / / / / / /

underline "our share of the team effort"

/ / / / / / / / / /

Write the first 2 areas in which we can support our coworkers.

a.

b.

/ /

a. Do an assigned task correctly the first time.

b. Assisting coworkers when they need help.

/ /

Circle the letter to the left of the responses that make the following statement true.

The two points you have learned concerning ethical support of your coworkers are:

a. Be prepared.

b. Do your share of the work correctly the first time.

c. Assist coworkers when they have difficulties.

d. Help your coworkers with all their tasks.

e. Two can always do a job better than one.

/ / / / / / / / / /

b - c

/ / / / / / / / / /

14. The third area of ethical support of our coworkers is, "Never speak of a coworker in a derogatory manner to a patient." There are a few people that mistakenly feel that patients will respect them if they point out the weak areas of their coworkers. One's ability to recognize the weak areas of others does kot necessarily mean that one can do better. Instead of impressing the patient it usually has the opposite effect. Patients know that they get the best care when they are being cared for by a nursing team. Slanderous remarks about team members are visable signs to the patient of poor nursing team work. Our responsibility is to strengthen our team weaknesses, not display them to the public.

Complete the following statement by filling in the blank spaces with the words that make the statement correct according to the paragraph you just read.

Ethics state that we can support our ____________________ by ____________________

speaking of them in a ____________________ manner to ________________________________.

/ / / / / / / / / /

coworkers - never - derogatory - patients

/ / / / / / / / / /

Circle the letter to the left ofthe response(s) that best completes the following statement.

Slanderous remarks about coworkers to patients

a. is a sign to patients that you are a good specialist because you recognize the mistakes of others.

b. help patients select the best specialist to do their nursing care.

c. impress the patients about the team's ability to recognize its own mistakes.

d. is a visable sign to the patient of poor nursing team effort to care for him.

/ / / / / / / / / /

d

/ / / / / / / / / /

List 3 ways we are ethically obligated to support our coworkers

a.

b.

c.

/ / / / / / / / / /

a. do our assigned tasks correctly the first time.

b. assist coworkers when they are having difficulty.

c. never speak of a coworker in a derogatory manner to a patient.

/ / / / / / / / / /

15. The fourth point of ethical support to coworkers is similar to the point just learned. It is "Never make derogatory remarks about a coworker to other coworkers." Making derogatory remarks about coworkers is a very easy bad habit to get into and an extremely difficult habit to break. A small number of people may attempt to demonstrate to team members that they are better than a particular member by pointing out that member's faults. The practice of speaking derogatorily of other team members helps to destroy the team concept of accomplishing objectives. The practice must be avoided. Invoke the policy, "If you cannot say something good about someone, don't say anything." Remember there are good and bad points about all of us.

Complete the statement below by filling in the blank spaces with the words that make the statement correct according to the paragraph you have just read.

The fourth means of __________________ supporting our coworkers is, "__________ __________ speak in a __________________ manner about them to other _____________."

/ / / / / / / / / /

ethically - never - derogatory - coworker

/ / / / / / / / / /

According to the paragraph you just read which of the following statements is/are true. Circle the letter to the left of the statement(s) you choose.

a. Free speech makes derogatory remarks permissible.

b. Making slanderous remarks about coworkers is a difficult habit to break.

c. A way to get in good standing with team members is to make slanderous statements.

d. No one is without his faults.

e. Avoiding slanderous remarks about your coworkers is your ethical responsibility.

f. If you do your job well you can criticize other members of the team.

/ / / / / / / / / /

b - d - e

/ / / / / / / / / /

Turn the page and do the exercise.

EXERCISE

1. List four means of ethically supporting our coworkers.

   a.

   b.

   c.

   d.

2. How can we best insure that we do our share of the work.

3. If we are not busy and a coworker needs help, what must we do? Why?

4. What does speaking in a derogatory manner about a coworker to a patient tell the patient?

5. Two specialists are making snide remarks about a third specialist who is having difficulty charting TPRs. What ethical responsibility is being violated if any?

6. What is wrong with the following situation?

   Amn Jones approaches Amn Smith.

   Amn Jones, "Jim, I need help; are you doing anything?"

   Amn Smith, "No Joe, but I don't feel up to working. I'm on a break."

   Amn Jones, "Look Jim, I did you a favor yesterday when I helped you turn Capt Mann in bed."

/ /

Correct responses to exercise:

1. a. Do our assigned tasks correctly the first time.

   b. Assist coworkers if they are having difficulty.

   c. Never speak about a coworker in a derogatory manner to a patient.

   d. Never speak about a coworker in a derogatory manner to other coworkers.

2. By doing our assigned tasks correctly the first time.

3. Give him whatever assistance he needs because ethics states "assist coworkers if they are having difficulty."

4. There is poor nursing team work.

5. Never speak about a coworker in a derogatory manner to other coworkers.

6. Amn Smith failed to render assistance to a coworker that needed help.

Amn Jones considered the help he rendered the day before a favor when it was actually his fair share of the work.

/ /

Instructions

If you answered 5 or more correctly continue to the next section. If you missed 2 or more review the material you did not understand, then proceed to the next section.

/ /

YOUR PATIENT AND HIS VISITORS

16. You have learned of your ethical responsibility to your supervisor and coworkers. No we will develop an equally important area of ethical responsibility and that is your ethical responsibility to your patients.

Ethical responsibility to patients is divided into three areas for explanation purposes. These areas are (1) Nursing care you render your patient, (2) Handling confidential information about your patient's illness, (3) Your contact with your patient's visitors.

/ / / / / / / / /

No response required-continue

/ / / / / / / / /

17. Ethical responsibility toward your patient while rendering nursing care is the most publicized segment of medical ethics. It is the area that causes the most problems when it is neglected. Therefore you must always remember the following points: (1) Do each task exactly as you were taught to do it, (2) Do not experiment on a patient, (3) Do not attempt tasks that you do not thoroughly understand. If you should decide to take a short cut and something goes wrong it will be impossible for your supervisor to support your actions. Just as serious as taking short cuts is attempting to do a nursing procedure you do not thoroughly understand or know nothing about.

From the statements below select the statements that best illustrates the points made in the previous paragraph by circling the letter to the left of your selection(s).

a. Take short cuts to save time when you can.

b. Do procedures exactly as you were taught to do them.

c. Attempt procedures you do not thoroughly understand to impress your supervisor of your willingness to learn.

d. Seek help from your supervisor or coworker when you do not thoroughly understand a nursing procedure.

e. The only way you can learn is experiment on patients.

/ / / / / / / / / /

b - d

/ / / / / / / / / /

Read the four statements that follow, then choose the one statement that best illustrates the implied time your ethical responsibility to the patient begins according to the paragraph you just read.

a. When you first start to work on a ward or clinic.

b. When you first start attending the Medical Service School to be taught how to perform nursing procedures.

c. When you first encounter a situation with which you cannot cope.

d. When you come into the military.

/ / / / / / / / / /

b

/ / / / / / / / / /

18. The second area of ethical responsibility to a patient is in the handling of confidential information about his illness. A patient will often tell you of signs he has noticed or symptoms he has experienced. His reason for giving you this information is he recognizes you as a member of the nursing team. In addition to what the patient tells you there will be information that you accumulate about the patient by observing him or reading his record. No matter how you accumulate this information you must treat it as privileged and confidential. It will be relayed to the nurse or doctor for medical use only. The relaying of this information is accomplished by telling the nurse or doctor directly or recording the information in the patient's chart. Under no circumstances are we ethically permitted to discuss this information with the patient, other patients, or visitors. The only people permitted to release medical information are the doctor and nurse.

Complete the following statements by filling in the blank spaces with the words that makes it true according to the paragraph you just read.

We have an _____________ responsibility to the patient when handling ___________

information about his _________________.

/ / / / / / / / / /

ethical - confidential - illness

/ / / / / / / / / /

Information about the patient's illness may be released by the ________________

or _________________ only.

/ / / / / / / / / /

doctor - nurse

/ / / / / / / / / /

List 2 ways you are ethically obligated to support your patients.

a.

b.

/ /

a. Doing nursing care.

b. Handling confidential medical information.

/ /

From the situations listed below choose the situation(s) that illustrate(s) a violation of ethics in the handling of information about the patient's illness.

a.	Mother of patient:	"Amn Smith, how is my son progressing now that he has recovered from the anesthesia?"
	Specialist:	"Mrs. Jones, the nurse will be here in a minute. Will you ask her?"
b.	Patient:	"What is my temperature?"
	Specialist:	"You have a fever of 102.4"
c.	Patient:	"That guy you wheeled down the hall looked pretty bad. What was the matter with him?"
	Specialist:	"Sir, I'm sorry, but we regard a patient's condition as a confidential matter and do not give out such information."
d.	Patient:	"Jones told me he was not feeling too well today. Is he going to have a relapse?"
	Specialist:	"No, he was just taken off a medication and he wants to be put back on it again. It made him a little high and he liked the feeling."

/ / / / / / / / / / / / / / / / /

Violations were b - d

/ / / / / / / / / / / / / / / / /

19. An area of ethical responsibility to the patient that is not often realized is to the people that come to visit him during his stay in the hospital. Visitors are important to the patient. They help occupy his time with cheerful conversation and activity. While a patient has visitors he is less aware of his discomfort. We can therefore say visitors perform an important function.

Our responsibility to a patient's visitors is twofold. We must be cheerful and courteous at all times. Treat them with respect and be patient with them. Remember that a hospital is a foreign place to them and they usually do not know what they are permitted to do. This unfamiliar situation they are in generates our second area of responsibility and that is we must be heloful. Answer their questions if it is ethically permissible or take them to someone who can answer their questions. Give them directions when they need them. In addition to these ways of being helpful, we must educate and supervise visitors when they are visiting isolation patients (patients who have a contagious disease). The education and supervision will prevent them from spreading the disease to themselves or other persons not infected.

Complete the statement below by writing the words in the blank spaces that will make it a correct statement according to the paragraph you just read.

Our ______________ responsibility to a patient includes be _________, __________, _________ and helpful to his visitors as well as to the patient himself.

/ / / / / / / / / / / / / / / / /

ethical - cheerful - courteous

/ / / / / / / / / / / / / / / / /

41

From the situations listed below select the statement(s) that best illustrate(s) our ethical responsibility to a patient being fulfilled according to the paragraph you just read. Circle the letter to the left of your choice(s).

a. As a visitor enters the ward a specialist approaches him and states emphatically, "You will have to leave the ward at 9 PM. That's the ward policy."

b. A visitor asks a specialist about her husband's condition. The specialist explains that only the nurse or doctor can answer her question. The specialist accompanies the visitor to the nurses station, introduces the nurse and relates the visitor's question to the nurse.

c. A specialist notices one of Amn Jones' visitors is sitting on the patient's bed because there are not enough chairs. The specialist brings a chair to the bedside and explains to the visitor that it is a ward policy that no one is permitted to sit on the patient's bed.

d. A visitor approaches a specialist and asks about his wife's condition. The specialist states he is not permitted to give out that information because it is privileged medical information.

/ / / / / / / / / / / / / / / / / / /

b - c

/ / / / / / / / / / / / / / / / / / /

Do the following exercise:

1. List 3 areas of ethical responsibility to the patient.

   a.

   b.

   c.

2. How can we ethically support our patients in carrying out nursing procedures?

3. List 2 violations of ethics in carrying out nursing procedures.

4. What should we do with medical information we observe about a patient?

5. Who is permitted to release information about the patient to his visitors or other interested personnel?

65

6. How must we treat a patient's visitors?

7. What must we do for a contagious disease patient's visitors?

/ / / / / / / / / / / / / / / / / / / /

Correct responses to exercise:

1. a. Accomplishing nursing care.
   b. Handling of confidential information about the patient's illness.
   c. Respect for patient's visitors.
   (or statements that mean the same)
2. a. Do a procedure exactly as we were taught to do it.
   b. Do not experiment on a patient.
   c. Do not do tasks you are not thoroughly familiar with.
   (or statements that mean the same)
3. a. Taking short cuts.
   b. Doing tasks we are not sure of.
   (or statements that mean the same)
4. Relay it to the nurse or doctor directly or record it on the patient's chart.
5. Nurse or doctor.
6. Cheerful, courteous, helpful.
7. Educate them, supervise them.

/ / / / / / / / / / / / / / / / / / / /

Review the material for the questions you missed before continuing to the test. If you did not miss any questions turn the page and do the test.

Test

Answer the following questions. When you have completed the test verify your responses by comparing them to the answers that immediately follow the test.

1. Define ethics

2. List 3 ways we are ethically obligated to support our supervisor.

   a.

   b.

   c.

3. In what 3 forms may the supervisor's orders be issued?

   a. ______________________ b. ______________________ c. ______________________

4. How are we ethically obligated to support our coworkers?

   a.

   b.

   c.

   d.

5. How are we ethically obligated to support our patients?

   a.

   b.

   c.

/ / / / / / / / / / / / / / / / / /

Confirmation to Test

1. A set of principles on which we may base decisions of right and wrong.

2. a. Respect positions he fills.

   b. Respect orders he issues.

   c. Policies he supports.

3. a. Suggest, b. Request, c. Orders

4. a. To not speak about them in a derogatory manner to other coworkers.

   b. Do not speak about them in a derogatory manner to patients.

   c. Assist them whenever they need help.

d. Do your assigned tasks correctly the first time.

5. a. Do each task exactly as you were taught to do it.

b. Do not reveal medical information about the patient.

c. Be courteous and helpful to the patients' visitors.

/ / / / / / / / / / / / / / / / / /

Instructions

If you missed any of the questions or if any of your answers were incomplete, review the material in the lesson until you understand it thoroughly before you continue the lesson.

If you answered all the questions completely and correctly continue to the next section

/ / / / / / / / / / / / / / / / / /

SAFEGUARDING OF CLASSIFIED INFORMATION

20. Each member of the Air Force receives training in the safeguarding of classified information. This portion of the lesson is not intented to replace that training. It is intended to give you an insight into the possibilities of accidental compromise of classified information by a patient.

/ / / / / / / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / / / / / / /

21. As a Medical Service Specialist you may be assigned to care for a post operative patient that has not yet fully recovered from anesthesia. If this patient has access to classified information in his duty section, he may accidentally begin to speak about it as he begins to regain consciousness. Should this occur we must take steps to prevent this information from being heard by other patients.

Fill in the blank spaces with the words that will make the statement true according to the paragraph you just read.

If a patient accidentally discloses ____________________ information we must take steps to ____________________ this information from being ____________________ by other ________________________________.

/ / / / / / / / / / / / / / / / / / / /

classified - prevent - heard - patients

/ / / / / / / / / / / / / / / / / / / /

22. To prevent other patients from hearing the information you believe to be classified, you must use good judgement in selecting the proper action.

The first possibility is to have any other people in the room leave at once if they are able to move on their own or can be easily moved by another person.

The second possibility is to move the patient that is revealing the classified information. This will be done if this would be the easier or safer procedure.

Answer the question below based on what you have just read.

What are the possible steps in safeguarding classified information that you should consider if your patient begins to reveal it?

/ / / / / / / / / / / / / / / / / / / /

a. Have other patients leave the room.

b. Move the patient revealing the classified information if this would be safer or easier.

/ / / / / / / / / / / / / / / / / / / /

23. After you have accomplished one of the two alternatives, you have just learned, you then must inform your supervisor of the situation.

Answer the following question according to the statement you just read.

When you are sure that no one can hear the classified information being revealed, what is your next step?

/ / / / / / / / / / / / / / / / / / / /

Inform your supervisor of the situation

/ / / / / / / / / / / / / / / / / / / /

Do the following exercise:

If a partially conscious patient begins to reveal what you believe to be classified information, which of the following alternatives would you consider? Circle the letter to the left of your choice(s).

a. Tape the patient's mouth shut.

b. Move him to another room if it were safe to do so.

c. Ask other patients in the room to leave.

d. Take notes on what the patient was saying.

e. Ask another patient who works in a classified area to help you determine if the information is classified.

/ / / / / / / / / / / / / / / / / / / /

b - c

/ / / / / / / / / / / / / / / / / / / /

If you answered the questions correctly continue to the next section.

If you missed any part of the previous exercise review the previous section on safeguarding classified information. Then continue to the next section

/ /

PUBLIC RELATION PRINCIPLES FOR RECEPTION DUTIES

Do you recall your last trip to the dispensary? How were you treated by the receptionist? Did he give you prompt recognition? Did he listen carefully? Did he address you courteously? Did he keep his personal feeling under control in dealing with your problem?

Most likely, you will be required to perform receptionist duties some time during your medical service career. It will be a challenging experience, but it can be a rewarding experience if you will remember and follow a few basic rules concerning promptness, effective listening, courtesy in address, and self-control.

24. A good receptionist is one of the most easily recognized, yet hardest to find persons around. You can get a good start toward becomming a good receptionist, however, by realizing that your every action must show a desire to help the patient.

Specifically, the receptionist:

a. recognizes the patient immediately,

b. asks him to take a seat,

c. assures him that he will be seen soon, or explains the delay, whichever applies, and

d. if the need for emergency treatment is apparent, refers the patient to the proper source.

Read this hypothetical situation

SITUATION. You are working at the local dispensary as a receptionist. You have been directed to remove certain dependent records from the current file for shipment to other bases, and you must have this done before the day is over. About 1400 hours, while you are busy pulling records, an airman enters. You glance over your shoulder and explain, "Can't handle you now. Can you come back when I'm not so busy?"

What did you do wrong in the previous situation? (Answer in your own words).

/ / / / / / / / / / / / / / / / / / / /

The patient was not properly recognized, he was not asked to take a seat, and no attempt was made to explain the delay. Also, since you didn't look at the patient carefully, you couldn't tell whether emergency treatment was needed.

/ / / / / / / / / / / / / / / / / / / /

25. Much has been said about effective speaking and writing, but in the receptionist's job, effective listening is also important. A good receptionist must listen patiently, for the patient has a right to be heard. If this is not done, troubles and misunderstandings often follow.

Read this hypothetical situation.

SITUATION. Miss Polly Pureblood approaches the reception desk rather uneasily and explains that she wants to see a doctor. But, in order for the right doctor to be contacted, she thinks you should know the nature of her illness. She goes on to say that she has a periodic rash on her arm which only appears when she becomes angry or nervous. She asks, "Could it be that I am going crazy? My mother had a similar problem, but she lived to be 91." The patient opens her mouth to continue, but the receptionist says, "Look lady, I don't have time to listen to your troubles. Besides, only a doctor can help _you_--that is, if you're not already beyond help."

What did the receptionist do wrong? (Answer in your own words).

/ / / / / / / / / / / / / / /

The receptionist did not listen patiently enough.

/ / / / / / / / / / / / / / /

26. Have you ever been embarrassed because someone was careless or discourteous in addressing you? It is easy for the receptionist to unwittingly embarrass a patient and thus hamper personal relations.

To avoid such embassassment, you should follow these rules:

a. Address military patients by rank. If no rank is indicated, use the full name, in which case the title "Mr." may be used.

b. Address civilians as "Mr.", "Mrs.", or "Miss." If an adult female's marital status is unknown, simply use the full name.

c. Address children by their full name.

For each of the following hypothetical patients, write the proper form of address.

PATIENT 1: Joyce Daniels, a WAF A1C, is being called to the receptionist's desk.

"( ), report to the desk, please."

PATIENT 2: Bob Glazier is in civilian clothing. You are not sure of his rank.

"( ), report to the desk, please."

PATIENT 3: Kathy Kincaid, a dependent child, is being called to the receptionist's desk.

"( ), report to the desk, please."

PATIENT 4: Grace Salter is a middle-aged lady. You are not sure of her marital status.

"( ), report to the desk, please."

PATIENT 5: George Henderson, a Civil Service worker, is being called to the receptionist's desk.

"( ), report to the desk, please."

/ / / / / / / / / / / / / / /

Patient 1 - Airman Daniels

Patient 2 - Bob Glazier or Mr. Bob Glazier

Patient 3 - Kathy Kincaid

Patient 4 - Grace Salter

Patient 5 - Mr. Henderson

/ / / / / / / / / / / / / / /

27. There are times when patients push the receptionist's self-control to the limit. However, you must remember that those patients are ill, and that their agitations are reactions to their illness. Try to overlook their aggressiveness, and control your own reactions.

Here are some principles to observe.

a. Be firm, but do not argue with a patient.

b. Try to keep calm.

c. Suppress the impulse to "tell off" the patient.

Read the following hypothetical situation and then identify each proposed solution as true or false.

SITUATION. You are a receptionist in the Pediatric Clinic of a large Air Force hospital. This has been an extremely busy day. Emergency cases have delayed scheduled appointments by as much as two hours. Mrs. Frappe, who has obviously been growing more irritable as time passes, approaches you and exclaims loudly.

"Listen here, medic or whatever you are! My son's appointment was for 1300, and it's already 1500. I know we were here before those last two kids went in. I demand to see a doctor!"

How should you reply to Mrs. Frappe? (True or False)

( ) a. Tell her to return to her seat and wait her turn or she will lose her appointment.

( ) b. Suggest that she reschedule an appointment if she doesn't care to wait.

( ) c. Explain how the emergency cases have delayed the schedule. Explain that the delay was unavoidable, and encourage her to wait.

( ) d. Tell her to sit down and quit making so much noise, and that the doctor will see her when he is ready.

/ / / / / / / / / / / / / / /

True - c; all others are false

/ / / / / / / / / / / / / / /

28. In performing reception duties you will be required to properly address hospital personnel. These people may be doctors, nurses, noncommissioned officers, or civilian personnel performing duties in the hospital. The following guidelines apply to properly recognizing their positions.

a. Air Force doctors, dentists, etc., may be addressed by rank, although it is appropriate to use the title "Doctor."

b. All other officers of the Medical Service should be addressed by rank.

c. Air Force nurses should be addressed by rank.

d. Civilian nurses should be addressed as "Miss" or "Mrs.", whichever their status may be.

e. All other civilians (except doctors, dentists, etc.) should be addressed as "Mr.", "Miss", or "Mrs." Doctors, dentists, etc., should be addressed by their specific title.

f. NCOs and airmen should be addressed by rank.

Answer the following questions regarding professional courtesy.

a. What individuals may be addressed by either rank or title?

( )

b. What civilian personnel should be addressed by title?

( )

c. How should Air Force nurses be addressed?

( )

d. How would you address the NCOIC of the pharmacy?

( )

e. How would you address a laboratory officer?

( )

f. If civilian nurses are assigned, how should they be addressed?

( )

/ /

a. Air Force doctors, dentists, etc.

b. Doctors, dentists, etc.

c. By rank.

d. By rank.

e. By rank.

f. "Miss" or "Mrs."

/ /

29. Indicate how you should address each of the following:

a. Joyce Winters is an unmarried civilian nurse assigned to the hospital.

( )

b. Major Dixon is the Chief of the Dental Clinic.

( )

c. MSgt Bob Coe is the NCOIC of the Hematology Laboratory.

( )

d. Lieutenant Paula Blake is an Air Force Nurse.

( )

e. Captain Louis Garrett is the Chief, Radiology Service.

( )

f. Bill Smith is a civilian working in the Psychotherapy Clinic.

( )

/ /

a. Miss Winters

b. Dr. Dixon (if he prefers) or Major Dixon.

c. Sergeant Coe

d. Lieutenant Blake

e. Captain Garrett or Dr. Garrett

f. Mr. Smith

/ /

TELEPHONE TECHNIQUE

30. In big business, which has long recognized the importance of good telephone communication technique, contracts are often won or lost by the voice on the other end of the line. How important it is, then, for the Medical Service Specialist to use the telephone correctly.

Here are some guidelines for good telephone technique.

a. Give the name of your section, your rank and name.
Example: "Air Force Clinic, Airman Williams."

b. If you must leave the receiver unattended, be especially careful not to place it near distracting noises, such as papers being shuffles, office machines being operated, etc.

c. When the person called for is not immediately available, inform the caller and assure him that you will notify the individual when he returns. Record the call on Standard Form 63, "Memorandum of Call."

Study the hypothetical situation below and indicate your reaction.

SITUATION. While you are working in the Eye Clinic at an Air Force hospital, you receive a telephone call for Dr. Raines, who is not in. What would you do? (Indicate in your own words.)

/ /

I would answer the telephone by saying, "Eye Clinic, Airman (   )." I would then inform the caller that Dr. Raines was not in, but that he would be told of the call. If I had to leave the receiver unattended, care would be taken not to locate it near distracting noises. Standard Form 63 would be completed. (Any other words to this effect are acceptable.)

/ /

31. You have completed this program. If there are any areas you are not sure of, review them at this time.

ATC-SHEPPARD AFB TEX 76-971

PROGRAMMED TEXT

3ABR90230 I thru III, Volume I

10-10

Technical Training

Medical Service Specialist

BLOCKS I THRU III

MEDICAL TERMINOLOGY

VOLUME I

April 1976

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

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55

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

PT 3ABR90230-I thru III, Volume I
April 1976

MEDICAL TERMINOLOGY

OBJECTIVE

Define selected medical terms.

INTRODUCTION

Throughout this course you will be using medical terminology to describe conditions, locations, medications, and nursing procedures. This program is designed to teach you these terms so that you will be better prepared to understand them when they are used by instructors and other students in the classroom discussions. You will also be expected to use correct terminology when you contribute to the discussion. When you leave this course and work in the hospitals of the Air Force, you will be expected to be able to use and understand the terms you learn in this course.

INSTRUCTIONS

At the beginning of each block of instruction you will be assigned a section of this program to do as homework outside the classroom. You will be able to learn the terms at your own pace. You should complete your assignment as soon as you can so that you will be able to discuss those terms you do not thoroughly understand when they are used in the lesson. At the end of each block of training the assigned portion of this program will be included in the written test. Do not advance beyond the assigned portion of the program without consulting your instructor. You will find that it is easier to remember the meanings of these terms if you use them in the classroom shortly after learning them.

This program is divided into steps called frames. These frames are numbered. Each frame contains information which is important in understanding the term being described. It may also require you to respond by filling in blanks. If you are required to fill in blanks, the correct answer will be included in the first sentence of the next frame or immediately below the frame. Correct any mistakes you make before continuing to the next frame. If there are no blanks to fill in or questions to answer you will find the statement "no response." You then continue to the next frame.

Occasionally you will be given a quiz to do. This quiz will concern the terms you have just learned. It may be a matching or fill in type quiz. Read the instructions at the beginning of each quiz to determine what you are expected to do. After each quiz the right answers will be given to you in the confirmation section that immediately follows the quiz. After checking your answers continue on to the next frame.

At the end of a major block of terms you will find a test. This test will contain 20 items that you will be asked to complete. The instructions for each test are found at the beginning of that test. If you miss more than two items do not continue until you have reread the frames that explain those items. Speed is not a necessary factor in working this program. Work at a comfortable pace. Turn the page and start the program.

INFORMATION

PREFIXES, ROOTS, AND SUFFIXES OF MEDICAL TERMINOLOGY

1. Anatomy is a study of the structures of the human body. The arm is a structure of the human body. A study of the structure of the arm then would be a study of _______.

2. (anatomy) The leg, like the arm, is also a __________ of the ___________ body.

3. (structure, human) Anatomy is the study of the __________________________ of the _____________ body.

4. (structures, human) Physiology is a study of the functions of the human body. Digestion, respiration and reproduction are all _________________ of the human body.

5. (functions) Anatomy is a study of the _________________ of the human body. _________________ is a study of the _____________ of the human body.

6. (structures, Physiology, functions) Movement is a _____________ of the human body. A study of movement would be a study of _________________.

7. (function, physiology) A study of the structure of the ribs would be a study of _____________.

8. (anatomy) Physiology is a study of the (______structures, ________ functions) of the human body.

9. (functions) Define anatomy. ____

____

____

____

10. (A study of the structures of the human body) Define physiology.

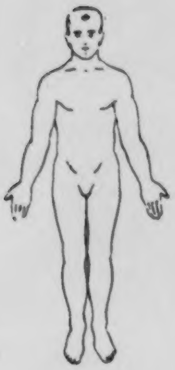
____

____

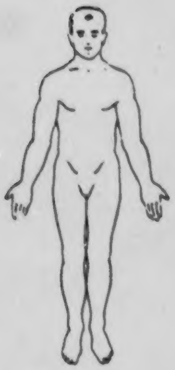
____

____

____



A.



B.

11. (a study of the functions of the human body) Whenever dealing with the human body, references are made with the body in the normal anatomical position. The normal anatomical position has the body at the position of attention with the palms facing forward. Which figure is the normal anatomical position? (_____ both, _____ A, _____B, _____ neither).

12. (both) The normal anatomical position has the body at the position of (_____attention, _____ rest) with the palms facing (_____ rearward, _____ foreward).

13. (attention, forward) The normal anatomical position is

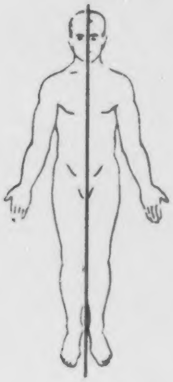
a. the position of rest with the palms facing forward.

b. the position of attention with the palms facing facing backward.

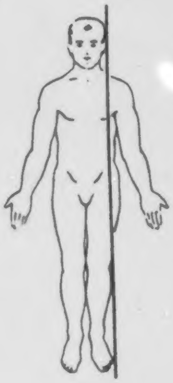
c. the position of rest with the with the palms facing forward.

d. the position of attention with the palms facing forward.

14. (d, the position of attention with the palms facing forward) For positive identification and location of specific parts of the body, the human form is divided by three anatomical planes. The mid-sagittal or mid-line, transverse, and coronal or frontal are all ______________ planes.

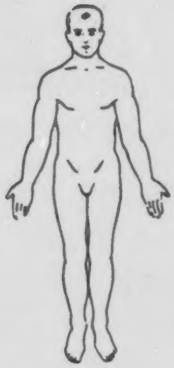


A.



B.

15. (anatomical) The mid-sagittal plane is an imaginary plane which extends the length of the body and divides the body into equal right and left portions. Which drawings above depicts the mid-sagittal plane? (______ both, ______ A, ______ B, ______ neither).



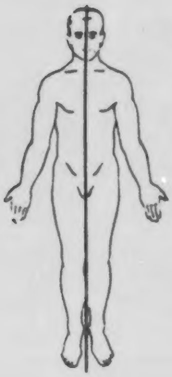
16. (A) Draw in the mid-sagittal plane on the figure above.

17. The mid-sagittal plane is an imaginary plane which extends the

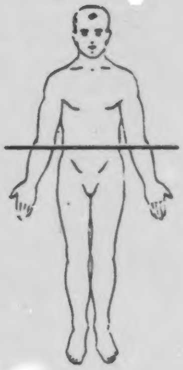
a. width of the body and divides the body into a top and bottom section.

b. length of the body and divides the body into equal right and left portions.

c. length of the body, separating the front of the body from the rear of the body.

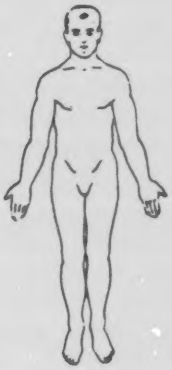


A.



B.

18. (b) A transverse plane is an imaginary plane which extends the width of any section of the body and divides the body into a top and bottom section. Which illustration above indicates a transverse plane? (_____ both, _____ A, _____ B, _____ neither).



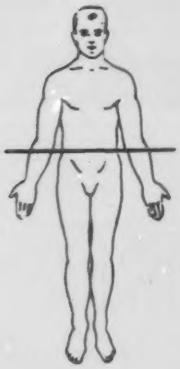
19. (B) Draw in a transverse plane on the figure above.

20. A transverse plane is an imaginary plane which extends the

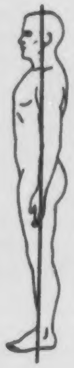
a. width of the body and divides the body into a top and bottom section.

b. length of the body and divides the body into equal right and left portions.

c. length of the body, separating the front of the body from the rear of the body.



A.

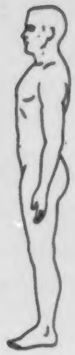


B.

21. (a) A coronal or frontal plane is an imaginary plane extending the length of the body, separating the front of the body from the rear of the body. Which drawing above depicts a coronal plane?

(_____ both, _____ A, _____ B, _____ neither).

62



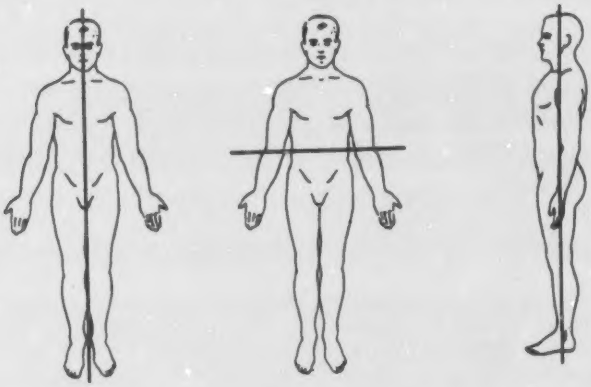
22. (B) Draw in a coronal plane on the figure above.

23. A coronal plane is an imaginary plane extending the

a. width of the body and divides the body into a top and bottom section.

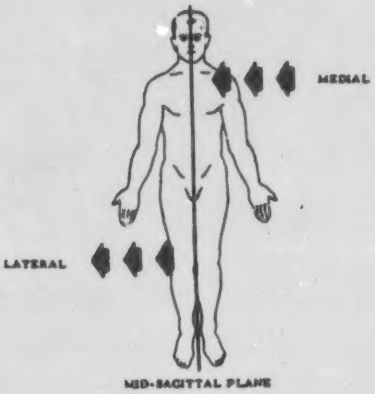
b. length of the body and divides the body into equal right and left portions.

c. length of the body, separating the front of the body from the rear.



A ____________ B ____________ C ____________

24. (c) Label the planes indicated on the drawings above as mid-sagittal, plane, transverse plane, coronal plane.



25. (A-mid-sagittal, B-transverse, C-coronal) The mid-sagittal plane has two terms of location connected with it. A part is said to be medial if it is located closer to the mid-sagittal plane than another part. The nose is medial (closer to the mid-sagittal plane) to the ear. The eye would be ____________________ to the ear.

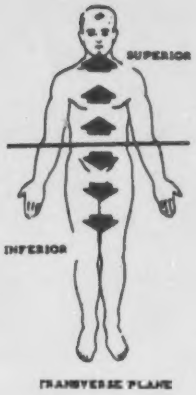
26. (medial) The tip of the nose is ____________________ to the eye.

27. (medial) A part is said to be lateral if it is farther from the mid-sagittal plane than another part. The eye is medial to the ear, but the ear is ______________________ to the eye.

28. (lateral) The tip of the nose is medial to the eye, but the eye is ______________ to the tip of the nose.

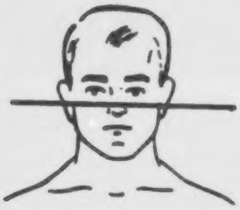
29. (lateral) The eyes are _______________ compared to the ears, but compared to the nose, the eyes are ____________________.

30. (medial, lateral) Two terms of location connected with the mid-sagittal plane are ____________________ and ____________________.



31. (lateral, medial) A transverse plane gives us two terms of location: superior, meaning above, and inferior, meaning below. A thing that is better or above something else is said to be ____________________.

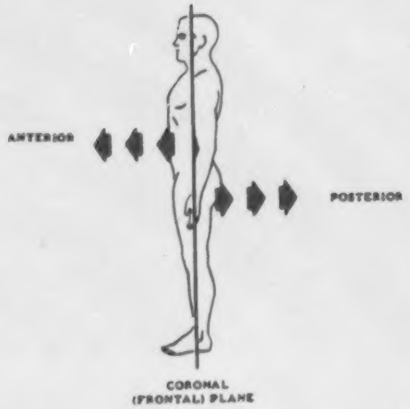
32. (superior) Something that is inferior is (_____ above, _____ below) standard.



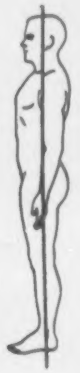
33. (below) With a transverse plane located as in the drawing, the forehead is ____________________ to the chin.

34. (superior) The two terms of location used in reference to a transverse plane are ____________________ and ____________________.

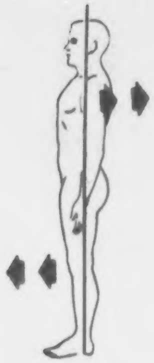
35. (superior, inferior) The two terms of location used in reference to the mid-sagittal plane are ____________________ and ____________________.


ANTERIOR
POSTERIOR
CORONAL
(FRONTAL) PLANE

36. (medial, lateral) A coronal plane has two terms of location, anterior, meaning in front, and posterior, meaning in back. The nose would be located (_____ anterior, _____ posterior) to the back of the head.



37. (anterior) With a coronal plane located as in the drawing, the buttocks are located _______________ to the nose.



CORONAL
(FRONTAL) PLANE

38. (posterior) The two terms of location connected with a coronal plane are ____________________ and ______________.

39. (anterior, posterior) The terms of location connected with the mid-sagittal plane are ______________ and ______________. The terms of location connected with a transverse plane are ______________ and ______________. The terms of location connected with a coronal plane are ______________ and ______________.

40. (lateral-medial, superior-inferior, anterior-posterior) A point of origin is the beginning of an extremity or system: for example, the mouth is the point of origin for the digestive system, the shoulders would be the point of origin for the ____________; while the thigh would be the ______________ of ______________ for the legs.

41. (arms, point, origin) Two terms of location connected with the points of origin are proximal and distal. If proximal means closest to, then distal must mean__________________ from.

42. (farthest) When discussing a part and making reference to the point of origin, the terms ______________, meaning closest to, and ______________, meaning farthest from, are used.

43. (proximal, distal) The shoulder is the point of origin for the upper extremities. The elbow is closer to the shoulder than the hand. Therefore, the elbow is _________ to the hand.

44. (proximal) In the same light, the hand would be ______________ to the elbow.

45. (distal) The point of origin is the beginning of a system or extremity. Two terms of location are ______________, meaning closest to the point of origin and __________, meaning farthest from the point of origin.

46. (proximal, distal) An article that is close by is in close proximity or _________.

47. (proximal) An article that is not close by is distant, or _________.

48. (distal) Proximal and distal are used as terms of relationship, i.e., the elbow is distal to the shoulder, but the shoulder is proximal to the arm. Enter the word distal or proximal below.

a. The elbow is ______________ to the wrist.

b. The fingers are ___________ to the elbow.

c. The wrist is ______________ to the elbow.

d. The knee is ______________ to the heel.

49. (proximal, distal, distal, proximal) Unilateral means pertaining to or affecting only one side. A pain that affects only one arm would be a ______________ pain.

50. (unilateral) The removal of one leg could be considered to be a _________________ amputation.

51. (unilateral) Bilateral, however, means pertaining to or affecting both sides of the body. Dislocating both shoulders would be a ______________ dislocation.

52. (bilateral) The amputation of one arm would be a ______________ amputation, while the amputation of both legs would be a ______________ amputation.

53. (unilateral, bilateral) Unilateral means pertaining to or affecting______________ side, while bilateral means pertaining to or affecting ______________ sides.

54. (one, both) A part that is closest to the point of origin is ___________________.

55. (proximal) A part that is farthest away from the point of origin is ____________.

56. (distal) An item that pertains to or affects only one side of the body is ________________, while an item that pertains to or affects both sides of the body is _________________________.

57. (unilateral, bilateral) Terms of location may sometimes be used together. You have two eyes, so the eyes are (_____unilateral, _____bilateral). The eyes are located above the tip of the nose, so the eyes are (_____ superior, _____ inferior) to the tip of the nose. The eyes are also located behind the tip of the nose, or the eyes are (_____anterior, _____ posterior) to the tip of the nose. In addition, the eyes are farther from the mid-line than the tip of the nose, so the eyes are (_____ lateral, _____medial) to the tip of the nose.

58. (bilateral, superior, posterior, lateral) Using this terminology, you can say the eyes are ______________ and the eyes are to the tip of the nose ____________________, ____________________ and ____________________.

68

59. (bilateral, superior, posterior, lateral) The eye to the ear is (circle the letter that is completely correct).

a. anterior - lateral

b. posterior - medial

c. anterior - medial

d. posterior - lateral

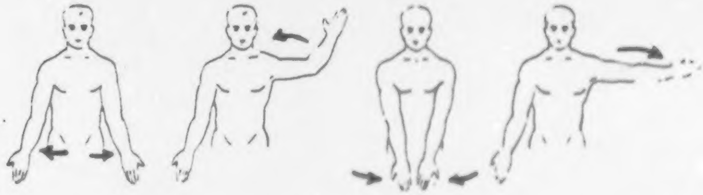
60. (c) The foot to the knee is

a. superior

b. inferior

c. medial

d. lateral



61. (b) There are four more terms you must learn; these are the terms of movement. Abduction is a movement away from the mid-line. Adduction is a movement toward the mid-line. Flexion is the shortening or closing of an angle. Extension is the lengthening or opening of an angle. Label the drawings: Adduction, Abduction, Flexion, Extension. Note to student: The arrows on all drawings indicate the direction the arm has moved.

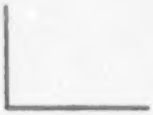
62. (1-Abduction, 2-Flexion, 3-Adduction, 4-Extension) In placing your left hand over your heart, you moved the tips of your fingers toward the mid-sagittal plane. You could say you (_____adducted, _____abducted) your finger tips.

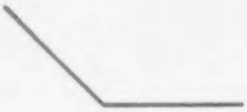
63. (adducted) A dope addict is drawn towards the dope. A movement towards the mid-line is _______________.

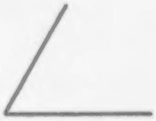
64. (adduction) When a person is kidnapped, he is said to have been abducted. Movement away from the mid-line is _______________.

65. (abduction) In bringing the hand to the forehead as in the military hand salute, the tips of the fingers are _______________, but the elbow is _______________. (Consider all movement from the normal anatomical position.)

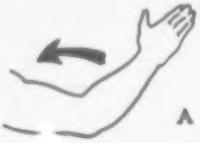
66. (adducted, abducted) When you contract your arm muscles, the angle formed by the arm and forearm is (____ increased, ____ decreased).


A

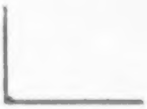

B.

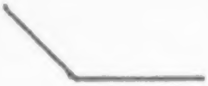

C.

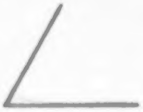
67. (decreased) Flexion is the closing or decreasing of an angle. Starting with the 90° angle of Figure A, which angle, B or C, is an example of flexion?


A

68. (C) Drawing A depicts ________________.

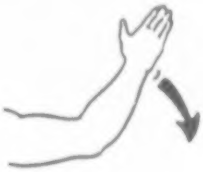

A.


B.

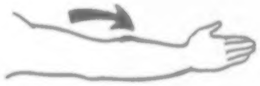

C.

69. (flexion) Extension is the opening or lengthening of an angle. Beginning with the angle in A, which angle, B or C, depicts extension?

A.

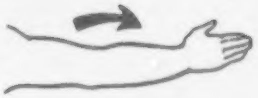


B.

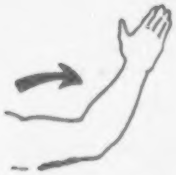


70. (B) Which drawing is an example of flexion? (____ both, ____ A, ____ B, ____ neither).

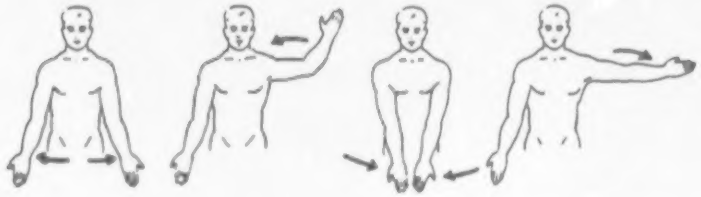
A.



B.



71. (neither) Which drawing is an example of extension? (____ both, ____ A, ____ B, ____ neither).



1____________, 2____________, 3____________, 4____________

72. (both) Label the drawings above as flexion, extension, adduction or abduction.

73. (1-abduction, 2-flexion, 3-adduction, 4-extension) Medical terminology is made up from Latin and Greek roots, suffixes, and prefixes. Learning these roots, suffixes, and prefixes will enable you to understand and form many medical words. Many medical words are formed using ____________ and ____________ ____________, ____________ and ____________.

74. (Latin, Greek roots, suffixes, prefixes) A prefix is a word used to modify the meaning of the word to which it is attached. It is always placed before the word it modifies. For example, prepaid means paid before. The prefix added to paid in this example is ____________.

75. (pre) The prefix meaning without is a or an. Which word or words below mean without something.

a. abrachia
b. anemia
c. abacterial
d. diplogen

76. (a, b, c) Abrachia, anemia, abacterial all have a prefix which means ____________.

77. (without) The prefix a is used when the root or suffix begins with a consonant. The prefix an is used when the root or suffix begins with a vowel. By adding the proper prefix, change each of the following words into a new form that means without.

1. _____typical 4. _____oxia

2. _____symmetrical 5. _____otia

3. _____omaly 6. _____febrile

78. (1-a, 2-a, 3-an, 4-an, 5-an, 6-a) Which word below could mean without arms?

a. gelatinase b. abrachia

79. (b) Which word below could mean without blood?

a. anemia b. napex

80. (a) The prefix ad means to or at. Drawing toward the mid-line is:

a. abduction b. adduction

81. (b) When one substance sticks to another substance, it is said to:

a. adhere b. abort

82. (a) At the mouth would be:

a. aboral b. adoral

83. (b) The prefix meaning without is:

a. ad b. a c. an

84. (b, c) The prefix meaning to or at is _______________.

a. ad b. a c. an

85. (a) The prefix meaning before is ante. For each of the following, fill in the word that gives the meaning of the prefix.

a. antenatal ______birth

b. anesthesia ______sense of touch or pain

c. antecubital ______forearm

d. aphagia ______power of swallowing

e. adrenal ______kidney

f. apnea ______breathing

g. anoxia ______oxygen

h. adneural ______nerve

86. (a-before, b-without, c-before, d-without, e-to the (at the), f-without, g-without, h-to the (at the)). Before the arm (forearm) is:

a. abrachial b. anbrachial

c. antebrachial d. adbrachial

87. (c) Antefebrile would mean:

a. after the onset of fever b. before the onset of fever

88. (b) Epi, inter, and intra are three words with similar meanings. They are sometimes difficult to separate. Epi means on or upon, inter means between, and intra means within. Upon the spine is:

a. interspinal b. intraspinal c. epispinal

89. (c) Epicostal means:

a. within a rib b. upon a rib c. between the ribs

90. (b) Inter and intra are the ones most easily mixed up. Inter and enter sound alike; when you enter a gate, you walk between the posts. Between the ribs is:

a. intercostal b. intracostal c. epicostal

91. (a) Upon the skin is ______________ while between two or more cartilages would be ________________.

a. epidermis b. intercostal

92. (b, a) Intra means within. Within the skull is ______________ and upon the skull is ______________.

a. epicranium b. intracranial

93. (b, a) Fill in the blanks with the correct prefix to match each meaning.

a. ______________ cardium - upon the heart

b. ______________ venous - within the vein

c. ______________ costal - upon the rib

d. ______________ cellular - between the cells

e. ______________ cellular - within the cells

f. ______________ muscular - between muscles

94. (a-epi, b-intra, c-epi, d-inter, e-intra, f-inter) Erythr/o means red. A common word is erythrocyte, meaning ______________ blood cell.

95. (red) The abbreviation RBC is frequently used for red blood cell. A red blood cell, then, may be either abbreviated RBC or written ____________ cyte.

96. (erythro) Erythrocyte may be abbreviated __________ or written out as _________ blood cell.

73

97. (RBC, red) Leuk/o and leuc/o mean white. A leukocyte is a __________ blood cell.

98. (white) An abbreviation, WBC, may also be used instead of the prefix-root combination. WBC or ___________ cyte means __________ blood cell.

99. (leuko, white) White blood cell may be abbreviated as ___________ or written as __________ cyte.

100. (WBC, leuko) You have seen that some prefixes end with the letter o as in leuk/o or erythr/o. Here is the rule for using such prefixes: Add the o when the root or suffix begins with a consonant; drop the o when the root or suffix begins with a vowel. Complete the words below by adding a or an where needed and by retaining or dropping the o in erythr/o and leuk/o.

a. leuk___cyte   b. erythr___emia   c. erythro___cyte

d. (a) (an) emic   e. (a) (an) symmetrical   f. (a) (an) brachi

101. (a-leukocyte, b-erythremia, c-erythrocyte, d-anemic, e-asymmetrical, f-abrachi) Complete the words below using the prefixes you have learned.

a. ______________ costal - between the ribs

b. ______________ sexual - without sex

c. ______________ blast - a red forming cell

d. ______________ neural - upon the nerve

e. ______________ emia - white blood disease

f. ______________ cranial - within the skull

g. ______________ renal - to the kidney

h. ______________ emia - without blood

i. ______________ brachium - before the arm

102. (a-inter, b-a, c-erythro, d-epi, e-leuk, f-intra, g-ad, h-an, i-ante) Intracranial and endocranial mean the same (inside or within) Inside the skull is ________________ or ________________.

a. intracranial   b. endocranial

c. epicranial

103. (a, b) Endoscopy means a visual examination

a. within   b. inside

c. upon   d. between

104. (a, b) Match the items in column A with the correct meaning in Column B.

A	B
1. intercostal _____	a. upon the skin
2. intracranial _____	b. within the skull
3. epidermis _____	c. inside the heart
4. endocardial _____	d. between the ribs

Note to student: Although Intra is Latin and Endo is Greek, both meaning within, Intra is usually used to mean within or among while Endo denotes inside or inner.

105. (1-d, 2-b, 3-a, 4-c) Peri means around, retro means behind. Around the heart is

a. retrocardial
b. pericardial

106. (b) Retronasal means

a. behind the nose
b. upon the nose
c. around the nose

107. (a) Perirectal means _________ the rectum, while retro-ocular means ___________ the eye.

108. (around, behind) A country that is retrogressive may soon be (____ahead ____behind) a similar country that is progressive.

109. (behind) An inflammation around the brain is

a. retropharyngitis
b. periencephalitis
c. endocarditis

110. (b) Label the items "around" or "behind" as applicable.

a. retrorectal _______________
b. periapical _______________
b. peribronchial _______________
c. retrodural _______________

111. (a-behind, b-around, c-around, d-behind) Bi means two. Bicuspid means _________ cusps.

112. (two) Section means to cut. Cutting into two parts would be ___________________.

113. (bisection) The biceps brachii muscle has _______________ heads.

114. (two) Bio is a prefix meaning life. A study of life is

a. hematology
b. neurology
c. biology

115. (c) Biogenous means

a. producing disease b. producing life

c. producing death

116. (b) An examination to determine if life is still present would be

a. endoscopy b. bioscopy

117. (b) Hem/o or hemat means blood. Hematology is a study of ____________________.

118. (blood) Stasis means standing still. Blood that is standing still would be in a condition of ____________ statis.

119. (hemo) A hemocytoblast is a ____________ forming cell.

120. (blood) Hyper and hypo are two prefixes. Hyper means above or an excess; hypo, then, means the opposite, or

a. above or excess b. normal

c. below or deficient

121. (c) Hypertension describes a person who has

a. more tension than normal

b. less tension than normal

c. normal tension

122. (a) A hypodermic needle is a needle that goes

a. above the skin b. below the skin

123. (b) Indicate the meaning of the following words by placing the letter "A" for above and "B" for below, after each word.

a. hyperacute b. hyperacid c. hypochondriac

d. hyperalgia e. hypomorph f. hypotension

124. (a-A, B-A, C-B, D-A, e-B, F-B) Sub is a prefix meaning under. Sub costal would mean __________ the ribs.

125. (under) Glossal refers to the tongue. Under the tongue would be ______________.

126. (subglossal) Under the shoulder blade would be __________ scapular.

127. (sub) Pneum/o means air, breath or lung. Pneumonitis is an inflammation of the ____________.

128. (lung) Pneumothorax means there is ____________ in the chest.

129. (air) Ectomy refers to the surgical removal of a part. Removal of a lung would be a ____________ ectomy.

130. (pneum) Listed below are medical words without their prefixes. Add the prefix to make each word mean what the lay term indicates.

a. _______________ brachia - without arms

b. _______________ renal - to the kidney

c. _______________ gastric - upon the stomach

d. _______________ costal - between the ribs

e. _______________ cyte - white blood cell

f. _______________ uria - without urine

g. _______________ cranial - within the skull

h. _______________ cardial - around the heart

i. _______________ cervical - behind the cervix uteri

j. _______________ cardial - inside the heart

k. _______________ logy - a study of life

l. _______________ section - cut in two

m. _______________ logy - a study of blood

n. _______________ tension - over tensed

o. _______________ dermic - beneath the skin

p. _______________ hepatic - under the liver

q. _______________ onitis - inflammation of the lung

r. _______________ cyte - red blood cell

s. _______________ partum - before childbirth

Check the confirmation. Any words you missed or had difficulty with, review before going on.

131. (a-a, b-ad, c-epi, d-inter, e-leuko, f-an, g-intra, h-peri, i-retro, j-endo, k-bio, l-bi, m-hemato, n-hyper, o-hypo, p-sub, q-pneum, r-erythro, s-ante) Periosteum means

a. behind the bone

b. upon the bone

c. around the bone

d. within the bone

132. (c) Within the cartilage is

a. perichondrial

b. interchondral

c. intrachondrial

133. (c) Epicardial means

a. within the heart

b. upon the heart

c. around the heart

134. (b) Pericardial means

a. around the heart

b. upon the heart

c. inside the heart

135. (a) Inside the heart is ____________ or ____________.

a. intracardial

b. pericardial

c. epicardial

d. endocardial

136. (a, d) Retrocardiac means

a. below the heart

b. above the heart

c. within the heart

d. behind the heart

137. (d) Cost is the medical term for rib. Upon the ribs is

a. epicostal

b. intracostal

138. Between the ribs is

a. intercostal

b. intracostal

139. (a) A form referring to the inner surface of the ribs would be

a. epicostal

b. intercostal

c. intracostal

140. (c) Cyte is the suffix meaning cell. The most commonly used words employing "cyte" are "leukocyte" and "erythrocyte." These words mean (select two)

a. bone cells

b. red cells

c. white cells

d. muscle cells

141. (b, c) A red blood cell having no hemoglobin is called a/an

a. alymphocyte

b. anerythrocyte

142. (b) Intraleukocytic means

a. upon a leukocyte

b. inside a leukocyte

c. within a leukocyte

d. below a leukocyte

143. (b, c) Myo is the medical term for muscle. Myocardium is a/an

a. arm muscle

b. neck muscle

c. heart muscle

d. head muscle

144. (c) A cell of the muscular tissue is called

a. myocardium

b. myocyte

145. (b) Ren and nephr both mean kidney. Nephr is used most often. Which of the words below pertain to the kidney or heart?

both _____, a _____, b _____, neither _____

146. (both) The most common form for kidney is

a. ren

b. nephr

147. (b) Intrarenal means

a. within the kidney

b. inside the kidney

c. upon the kidney

148. (a-b) Around the kidney is

a. peribrachial

b. pericostal

c. perirenal

d. pericardial

149. (c) Endonephritis, renal, intrarenal, perirenal, nephrectomy. Looking at the words above, select the correct statement or statements that tell how and when ren and nephro are used.

a. Ren is always used as a word ending.

b. Nephr is always used as a word beginning.

c. Ren is never used as a word beginning.

d. Nephr is never used as a word ending.

e. Ren is usually used as a word ending with the suffix al.

150. (d, e) Oste is the medical term for bone. Removing a bone is accomplished through a/an

a. cardiectomy

b. pneumonectomy

b. nephrectomy

d. ostectomy

151. (d) Ostealgia would be a

a. headache

b. pain in the arm

c. pain in the bone

d. pain in the neck

152. (c) Osteopathy is a

a. disease of the skin
b. disease of the arm
c. disease of the bone

153. (c) Neuro is the medical term for nerve. A neurocyte would be a

a. muscle cell
b. blood cell
c. clotting cell
d. nerve cell

154. (d) Within a nerve is

a. subneural
b. adneural
c. endoneural
d. epineural

155. (c) Subneural means

a. around an arm
b. upon a nerve
c. upon an arm
d. under a nerve

156. (d) Thrombo is the medical term for clot. A thrombocyte is a blood platelet or

a. red cell
b. white cell
c. clotting cell

157. (c) A blood clot within the heart is

a. thrombo-endarteritis
b. thrombocytopenia
c. thrombo-embolism
d. thrombo-endocarditis

158. (d) Producing a clot is

a. thrombogenic
b. thrombocyte

159. (a) You have learned many words. To help you retain this knowledge, the next four frames consist of a review. Column A contains medical terminology and Column B contains lay terminology. Match the medical term with the correct lay term.

A

1. extension __________
2. anatomy __________
3. physiology __________
4. normal anatomical position __________
5. mid-sagittal plane __________
6. transverse plane __________
7. coronal plane __________
8. abduction __________
9. adduction __________
10. flexion __________

B

a. a study of the functions of the body
b. an imaginary plane which divides the body into equal right and left halves.
c. an imaginary plane which divides the body into a front and back section
d. a study of the structures of tne body
e. movement toward the mid-line
f. lengthening of an angle
g. movement away from the mid-line
h. the position of attention with the palms facing forward
i. the shortening of an angle
j. an imaginary plane which divides the body into a top and bottom section.

160. (1-f, 2-d, 3-a, 4-h, 5-b, 6-j, 7-c, 8-g, 9-e, 10-i) Continue as in the preceding frame.

1. medial __________
2. lateral __________
3. superior __________
4. inferior __________
5. anterior __________
6. posterior __________
7. proximal __________
8. distal __________
9. unilateral __________
10. bilateral __________

a. above the transverse plane
b. in front of the coronal plane
c. closest to the point of origin
d. pertaining to or affecting but one side
e. pertaining to or affecting both sides
f. nearest to the mid-line
g. farthest from the point of origin
h. below the transverse plane
i. in back of the coronal plane
j. farthest from the mid-line

161. (1-f, 2-j, 3-a, 4-h, 5-b, 6-i, 7-c, 8-g, 9-d, 10-e) Continue as in the preceding frame.

1. abrachial __________
2. anerythrocyte __________
3. adneural __________
4. epicostal __________
5. erythrocyte __________
6. interrenal __________
7. leukocyte __________
8. intracardiac __________
9. perinephric __________
10. retrocardiac __________

a. situated upon a rib
b. red blood cell
c. within the heart
d. white blood cell
e. around the kidney
f. without red cells
g. to have a nerve
h. behind the heart
i. without arms
j. between the kidneys

162. (1-i, 2-f, 3-g, 4-a, 5-b, 6-j, 7-d, 8-c, 9-e, 10-h) Continue as in the preceding frame.

1. endocardial __________
2. bilateral __________
3. biocidal __________
4. hematology __________
5. hyperleukocytosis __________
6. hypoleukocytosis __________
7. subcostal __________
8. pneumocardial __________
9. neurocyte__________
10. thrombocyte__________

a. destructive to living organisms
b. excess in the number of white blood cells
c. under the rib
d. pertaining to the heart and lungs
e. inside the heart
f. a nerve cell
g. deficiency of white blood cells
h. a blood platlet (clotting cell)
i. a study of blood
j. pertaining to both sides

163. (1-e, 2-j, 3-a, 4-i, 5-b, 6-g, 7-c, 8-d, 9-f, 10-h) Hepat is a root meaning liver. A patient with an inflammed liver would have

a. neuritis
b. hepatitis
c. carditis
d. nephritis

164. (b) Any disease of the liver would be

a. hepatopathy
b. osteopathy

165. (a) A removal of a portion of the liver would require a

a. hepatopathy
b. cardiectomy
c. hepatectomy
d. ostectomy

166. (c) Cephal means head. Medically speaking, if you had a headache you would have

a. neuralgia
b. cardialgia
c. cephalalgia
d. myalgia

167. (c) Any disease of the head would be classified as

a. cephalopathy
b. hepatitis
c. neurology
d. osteopathy

168. (a) A headless body would be

a. bicephalus
b. acephalia

169. (b) Chondri is a root meaning cartilage. Under the cartilage is

a. hypochondrium
b. hypochondroplasia
c. intrachondrial
d. subchondral

170. (d) A cartilage cell is a

a. chondralgia
b. chondrocyte
c. chondroblast
d. chondritis

171. (b) Cartilage is formed through a process called

a. myogenesis
b. osteogenesis
c. neurogenesis
d. chondrogenesis

172. (d) The root form for stomach is gastr. An inflammation of the stomach i[illegible]

a. nephritis
b. gastritis
c. cephalitis
d. neuritis

173. (b) A word which means pertaining to the heart and stomach is

a. gastroacephalus
b. gastrocardiac
c. gastrohepatic
d. gastronephritis

174. (b) Which word means an inflammation of the stomach and kidney

a. gastrointestinal
b. gastrologist
c. gastronephritis
d. gastrohepatitis

175. (c) Arter means artery. Arteriorenal would be an ________________ of the ________________.

176. (artery, kidney) Arteritis would be an inflammation of the ________________.

177. (arteries) Stenosis means narrowing. Arteriostenosis means a narrowing of the ____________________.

178. (arteries) Crani means skull. A craniectomy would be a surgical ________________ of the __________________.

179. (removal, skull) Crani or cranium means ___________________.

180. (skull) Pathy means disease. A craniopathy would be a _________of the _________.

181. (disease, skull) Derma or derma/o means skin; neur/o means nerve; logy means a study of. Dermatoneurology refers to a ____________ of the __________ and the _________.

182. (study, nerves, skin) Itis means an inflamed condition or inflammation. Dermatitis refers to an ____________________ of the ___________.

183. (inflammation, skin) Under the skin is

a. intradermic
b. hypodermic
c. subdermic
d. epidermic

184. (b-c) Aden is a root meaning gland. A gland can be removed by a/an

a. neurectomy
b. adenectomy
c. arterectomy
d. nephrectomy

185. (b) An inflammation of the tissues around a gland would be

a. pericarditis
b. periarteritis
c. periadenitis
d. periangiitis

186. (c) A condition of enlarged glands would be

a. hyperadenosis
b. hypoadenia

187. (a) The medical root meaning fat is adip. The condition of a person who is extremely fat is described as

a. hyperalgesia
b. hyperalgia
c. hyperadiposis
d. hyperadenosis

188. (c) Fat is usually painful to the fat man. A neurotic state in which there are painful areas of fat is

a. neuralgia
b. adipositis
c. neuritis
d. adiposalgia

189. (d) Inflammation of the fatty tissue is called

a. neuritis
b. adipositis
c. nephritis
d. carditis

190. (b) Producing fat or fatness is

a. cytogenic
b. myogenic
c. adipogenic
d. ovigenic

191. (c) A duct is a tube or passage. An egg tube would be an

a. ovicapsule
b. oviferous
c. oviform
d. oviduct

192. (d) A gland having no excretory passage would be a _________ less gland.

193. (ductless) Either tube or passage is meant by the stem

a. duct
b. ovi
c. nephro
d. osteo

194. (a) Time for a review. The words in column A are lay terms. The words in column B are medical terms. Match the lay terms to the medical terms.

A	B
1. an inflammation of the liver _____	a. hypochondrial
2. without a head _____	b. intra-arterial
3. below the cartilage _____	c. perigastrium
4. around the stomach _____	d. hepatitis
5. within the artery _____	e. acephalic

195. (1-d, 2-e, 3-a, 4-c, 5-b) Complete the next five words as in the last frame.

A	B
1. egg passage _____	a. adipose
2. fat _____	b. cranium
3. inflamed skin _____	c. adenal
4. skull _____	d. dermatitis
5. gland _____	e. oviduct

196. (1-e, 2-a, 3-d, 4-b, 5-c) Ophthalm is a root meaning eye. An eye is surgically removed by a/an

a. otectomy
b. myectomy
c. nephrectomy
d. ophthalmectomy

197. (d) An inflammation of the eye is

a. ophthalmitis
b. neuritis
c. nephritis
d. carditis

198. (a) The study of the eye is called

a. neurology
b. hematology
c. gastrology
d. ophthalmology

199. (d) Ot is a root word meaning ear. A visual examination of the ear is a/an

a. endoscopy
b. otoscopy

200. (b) A pain in the ear is

a. neuralgia
b. myalgia
c. otalgia
d. nephralgia

201. (c) Any disease of the ear is called

a. ophthalmopathy
b. myopathy
c. neuropathy
d. otopathy

202. (d) Ov is the root word for egg. An egg tube is a/an

a. oviduct
b. oviferous
c. ovigenesis
d. ovination

203. (a) To bear eggs would be

a. otogenous
b. oviferous

204. (b) An egg cell is an

a. ovigerm
b. ovocyte
c. oviform

205. (b) Vas is the root word meaning vessel Any nerve and vessel disease would be

a. vasalgia
b. neuropathy
c. vasorrhaphy
d. vasoneuropathy

206. (d) A pain in a vessel is

a. neuralgia
b. vasalgia
c. myalgia
d. nephralgia

207. (b) Any nerve and blood vessel disease is called

a. vasoneuropathy
b. nephropathy
c. myoneurosis
d. pneumonopathy

208. (a) Cyst is the root word meaning bladder. Within the bladder is

a. acystic
b. intracystic
c. pericystic
d. epicystic

209. (b) An inflammation inside the bladder is

a. epicystitis
b. pericystitis
c. endocystitis
d. hypocytosis

210. (c) Inflammation of tissues around the bladder is called

a. cystitis
b. pericystitis
c. epicystitis
d. pericarditis

211. (b) The next group of frames is a review of all the words you have learned. Match the lay term of column A with the medical term of column B.

A	B
1. the study of the structures of the human body ______	a. normal anatomical position
2. the study of the functions of the human body ______	b. coronal plane
3. the position of attention with the palms facing forward ______	c. medial
4. the plane that divides the body into equal right and left halves ______	d. transverse plane
5. the plane which divides the body into top and bottom sections ______	e. lateral
6. the plane which divides the body into front and back sections ______	f. mid-sagittal plane
7. closest to the mid-saggital plane ______	g. anatomy
8. farthest from the mid-sagittal plane ______	h. physiology

212. (1-g, 2-h, 3-a, 4-f, 5-d, 6-b, 7-c, 8-e) If you made any errors, return to frame 1 and retake the program. If you were able to complete frame 211 without error, continue with this frame.

1. about the transverse plane ______ a. inferior
2. below the transverse plane ______ b. proximal
3. in front of coronal plane ______ c. posterior
4. in back of coronal plane ______ d. unilateral
5. closest to the point of origin______ e. superior
6. farthest from the point of origin ______ f. bilateral
7. affecting one side of the body______ g. distal
8. affecting both sides of the body ______ h. anterior

213. (1-e, 2-a, 3-h, 4-c, 5-b, 6-g, 7-d, 8-f) If you made any errors, return to page 10, frame 31, and begin the program. If you were able to complete frame 212 without error, continue with this frame.

1. movement from or away from mid-line ______ a. acephalic
2. movement to or toward mid-line______ b. epicostal
3. shortening of an angle ______ c. adduction
4. lengthening of an angle ______ d. adoral
5. without a head ______ e. anemia
6. without blood ______ f. flexion
7. to the mouth ______ g. adbuction
8. upon a rib ______ h. extension

214. (1-g, 2-c, 3-f, 4-h, 5-a, 6-e, 7-d, 8-b) If you made any errors, return to page 14, frame 61, and begin the program. If you were able to complete frame 213 without error, continue with this frame.

1. red blood cell ______
2. between the ribs ______
3. white blood cell ______
4. within the skull ______
5. a membranous sac around the heart ______
6. behind the nose ______
7. inside the nerve ______
8. cut in two ______

a. leukocyte
b. pericardium
c. retronasal
d. intercostal
e. endoneurium
f. bisection
g. erythrocyte
h. intracranium

215. (1-g, 2-d, 3-a, 4-h, 5-b, 6-c, 7-e, 8-f) If you made any errors, return to page 18, frame 94, and begin the program. If you were able to complete frame 214 without error, continue with this frame.

1. a study of life ______
2. a study of blood ______
3. extreme fatness ______
4. administered below the skin ______
5. under the liver ______
6. a surgical removal of a lung______
7. forearm ______
8. a heart muscle______

a. hypodermic
b. pneumectomy
c. antebrachium
d. biology
e. myocardium
f. hematology
g. subhepatic
h. hyperadiposis

216. (1-d, 2-f, 3-h, 4-a, 5-g, 6-b, 7-c, 8-e) If you made any errors, return to frame 114, page 20, and begin the program. If you were able to complete frame 215 without error, continue with this frame.

1. under the ribs ______
2. muscle cell ______
3. surgical removal of a kidney ______
4. bone disease ______
5. pertaining to the kidneys and heart ______
6. inflammation of the nerves ______
7. blood clotting cell ______
8. inflammation of the liver ______

a. myocyte
b. osteopathy
c. neuritis
d. hepatitis
e. thrombocyte
f. subcostal
g. nephrectomy
h. renicardiac

217. (1-f, 2-a, 3-g, 4-b, 5-h, 6-c, 7-e, 8-d) If you made any errors, return to frame 137, page 23, and begin the program. If you were able to complete frame 216 without error, continue with this frame.

1. without a head ______
2. below the cartilage ______
3. behind the stomach
4. a study of the arteries ______
5. within the skull______
6. inflammation under the tongue______
7. inflammation of a gland ______
8. condition of being fat ______

a. hypochondrial
b. arteriology
c. intracranial
d. adenitis
e. adiposis
f. acephalic
g. subglossitis
h. retrogastric

218. (1-f, 2-a, 3-h, 4-b, 5-c, 6-g, 7-d, 8-e) If you made any errors, return to frame 166, page 27, and begin the program. If you were able to complete frame 217 without error, continue with this frame.

1. egg tube ______ a. opthalmectomy

2. the surgical removal of an eye______ b. oviform

3. pain in the ear ______ c. vasalgia

4. egg-shaped ______ d. oviduct

5. pain in vessels ______ e. cystectomy

6. removal of a bladder ______ f. otalgia

219. (1-d, 2-a, 3-f, 4-b, 5-c, 6-e) If you made any error, return to page 29, frame 191, and begin the program. If you were able to complete frame 218 without error, continue with this frame. Blast is a word suffix (ending) meaning forming cell. A red forming cell is a/an

a. leukocyte b. erythroblast

c. leukoblast d. erythrocyte

220. (b) Muscle tissue is formed from a

a. neuroblast b. thromboblast

c. myoblast d. osteoblast

221. (c) A white forming cell is a/an

a. leukocyte b. erthroblast

c. leukoblast d. nephrectomy

222. (c) Ectomy attached to a word means a surgical removal of that part. A surgical removal of the liver would be a

a. hepatectomy b. hepatotomy

223. (a) Removing a part of the heart is accomplished through a

a. carditis b. cardiotomy

b. cardiectomy d. cardiataxia

224. (c) A kidney is removed through a

a. hepatectomy b. nephrectomy

c. arterectomy d. cardiataxia

225. (b) Hemat was the prefix meaning blood; emia is the suffix meaning condition of the ____________________.

226. (blood) The word which means a person is deficient or without blood is

a. erythrocyte   b. hypoleukocytosis

c. hyperleukocytosis   d. anemia

227. (d) A condition of the white blood cells is called

a. erythremia   b. leukemia

228. (b) Itis is a suffix meaning inflammation. Inflammation of the nerves is

a. hepatitis   b. nephritis

c. neuritis   d. carditis

229. (c) Inflammation of the liver is

a. hepatitis   b. nephritis

c. neuritis   d. carditis

230. (a) An inflammed kidney would be called nephr__________________.

231. (itis) Logy is a suffix meaning a study of. A study of blood is

a. cardiology   b. hematology

c. nephrology   d. myology

232. (b) A study of the nerves would be called neuro__________________.

233. (logy) Myology is a __________________ of the __________________.

234. (study, muscle) Pathy is the suffix meaning disease. A disease of the eye would be

a. otopathy   b. myopathy

c. cardiopathy   d. ophthalmopathy

235. (d) Any disease of the bone is called

a. osteitis   b. ostalgia

c. osteopathy   d. ostectomy

236. (c) A study of disease is called

a. pathology   b. myology

237. (a) A condition is indicated by the suffix osis. A nerve condition is

a. neuritis   b. neurosis   c. neurectomy

238. (b) A condition of a heart muscle would be

a. myocardium
b. myocardosis
c. myocardial
d. myocele

239. (b) Scopy means a visual examination of. A visual examination inside a part is performed by a/an

a. episcopy
b. endoscopy
c. periscopy
d. dermatoscopy

240. (b) A visual examination of the eye is performed by a/an

a. otoscopy
b. cardioscopy
c. ophthalmoscopy

241. (c) The suffix ________________ is used to indicate a visual examination.

242. (scopy) Stasis is a suffix meaning stoppage or standing still. A stoppage of blood is called

a. hemostasis
b. intestinal stasis
c. ileal stasis

243. (a) Stoppage of the flow of fluid from the kidneys is

a. hemostasis
b. urine stasis

244. (b) When the eyes are fixed in one place, it is called

a. hemostasis
b. venous stasis
c. ophthalmostasis

245. (c) To the words below add the appropriate ending.

a. erythro ________________ red forming cell
b. aden ________________ surgical removal of a gland
c. leuk ________________ condition of white blood cells
d. neur ________________ inflammation of a nerve
e. hemato ________________ study of blood
f. osteo ________________ bone disease
g. nephr ________________ condition of the kidney
h. endo ________________ visual examination inside
i. hemo ________________ standing or stopped blood

246. (a-blast, b-ectomy, c-emia, d-itis, e-logy, f-path, g-osis, h-scopy, i-stasis) If you made any errors, return to page 35, frame 219, and begin the program. If you were able to complete this frame without error, turn to page 40 and complete frames 266 through 274. Tomy means surgical incision. A surgical incision into a bladder is a

a. cystotomy b. myotomy

247. (a) There are three word endings which, when used, place the word in a class, i.e., noun, adjective, past participle. There is a fourth word ending which indicates pertaining to. These word endings are as follows:

Noun - um or ium. For a word not ending with a vowel, use "ium." If the word end with a vowel, use "um."

Adjective - al

Past participle - ion

Pertaining to - ac

Remember the word noun ends in un, so you add _______ or _______.

248. (um, ium) Make nouns from the following words by adding the correct suffix to each.

cardi _________

gastri _________

chondri _______

249. (cardium, gastrium, chondrium) To form a noun, you add _______ or _______.

250. (um, ium) An adjective describes something and is formed by adding al. Make the following words adjectives.

cardi _________

ren ___________

brachi ________

251. (cardial, renal, brachial) An adjective is formed by adding _______.

252. (al) The past participle is formed by adding ion; it indicates something that has already happened. Make the following words past participles.

adduct _________

flex ___________

abduct _________

253. (adduction, flexion, abduction) Past participles are formed by adding __________.

254. (ion) Pertaining to is denoted by ac. Make each of the following words mean "pertaining to."

cardi ________

chondri ________

brachi ________

255. (cardiac, chondriac, brachiac) The suffix meaning pertaining to is ________.

256. (ac) Complete the following, adding the ending called for

a. cardi ________ noun

b. brachi ________ adjective

c. gastr ________ noun

d. ren ________ adjective

e. chondri ________ pertaining to

f. flex ________ past participle

g. cardi ________ pertaining to

h. adduct ________ past participle

257. (a-um, b-al, c-ium, d-al, e-ac, f-ion, g-ac, h-ion) Ante is a prefix meaning before. The forearm is also called the

a. antecardium

b. antefebrile

c. antenatal

d. antebrachium

258. (d) Before the heart would be

a. antebrachium

b. antecardium

c. antecibum

259. (b) If mortem means death, before death is ________________ morten.

260. (ante) Gen means to produce. Producing eggs is

a. oviduct

b. oviform

c. ovigenetic

261. (c) The word below that means producing life is

a. biochemistry

b. biology

c. biocidal

d. biogenous

262. (d) Producing cells is called

a. cytogenous
b. erythrocyte
c. myocyte
d. cytoglobin

263. (a) Algia is a suffix meaning pain. A headache would be

a. neuralgia
b. cephalgia
c. adenalgia
d. gastralgia

264. (b) A pain in the nerves is

a. neuritis
b. neurosis
c. neuralgia
d. neurology

265. (c) Painful glands might be described as

a. adenalgia
b. adenitis
c. adenosis
d. adenology

266. (a) The following is a review of all the words you have learned. You should be able to translate all the medical terminology into lay terminology with little difficulty. When you complete this program, your instructor will give you additional instructions. Match the terminology in column A with the lay term in column B.

A

1. erythroblastosis ______
2. gastrotomy ______
3. hyperemia ______
4. pericardectomy ______
5. osteochondrosis ______
6. erythrodermatitis ______
7. hematocytoblast ______

B

a. excessive blood
b. inflammation of the skin with redness
c. a condition of red forming cells
d. a condition of the cartilage and bone
e. forming blood cells
f. surgical removal of the sac around the heart
g. cutting the stomach

267. (1-c, 2-g, 3-a, 4-f, 5-d, 6-b, 7-e) Continue with the following words.

1. hypochondrium ______
2. subdermal ______
3. pneumocardial ______
4. periophthalmitia ______
5. brachiocephalic ______
6. anhepatogenic ______
7. athrombosis ______

a. pertaining to the lungs and the heart
b. pertaining to the arms and head
c. under the cartilage (ribs)
d. not originating in the liver
e. an inflammation of the tissues around the eye
f. a condition in which the blood does not clot
g. under the skin

268. (1-c, 2-g, 3-a, 4-e, 5-b, 6-d, 7-f) Continue with the following words.

1. endoneural ______
2. perinephritis ______
3. retro-ocular______
4. bilateral ophthalmitis ______
5. biology ______
6. subhepatic ______
7. hepatoscopy ______
8. hemostasis ______

a. inflammation of both eyes
b. study of life
c. inflammation of the sac around the kidney
d. beneath the liver
e. situated within a nerve
f. standing blood
g. examination of the liver

269. (1-e, 2-c, 3-h, 4-a, 5-b, 6-d, 7-g, 8-f) Continue with the following words.

1. thrombocyte ______
2. adduction ______
3. adiposis ______
4. arteriology ______
5. epicystitis ______
6. intracranial ______
7. epidermosis ______

a. a condition of fat
b. inflammation of the structures above the bladder
c. within the skull
d. moving toward the mid-line
e. a condition of the upper layer of skin
f. a cell that helps form a clot
g. a study of the arteries

270. (1-f, 2-d, 3-a, 4-g, 5-b, 6-c, 7-e) Continue with the following words.

1. anatomy ______
2. physiology ______
3. normal anatomical position______
4. mid-sagittal plane ______
5. transverse plane ______
6. coronal plane ______

a. position of attention with palms facing outward
b. imaginary plane that divides the body into front and back sections
c. imaginary plane that divides body into upper and lower sections
d. study of functions of body
e. imaginary plane that divides the body into equal right and left sections
f. study of structures of the body

271. (1-f, 2-d, 3-a, 4-e, 5-c, 6-b) Continue with the following words.

1. leukocytology ______
2. intercostal ______
3. oviduct ______
4. otitis ______
5. vasotomy ______
6. cystectomy ______
7. antebrachium ______

a. an egg-coveying tube
b. a study of white blood cells
c. the surgical removal of a bladder
d. inflammation of the ear
e. before the arm (forearm)
f. cutting of a vessel
g. between the ribs

272. (1-b, 2-g, 3-a, 4-d, 5-f, 6-c, 7-e) Continue with the following words.

1. medial ______
2. lateral ______
3. superior ______
4. inferior ______
5. anterior ______
6. posterior ______
7. proximal ______
8. distal ______

a. above the transverse plane
b. closest to point of origin
c. farthest from the mid-line
d. in back of the coronal plane
e. below the transverse plane
f. closest to the mid-line
g. farthest from point of origin
h. in front of the coronal plane

273. (1-f, 2-c, 3-a, 4-e, 5-h, 6-d, 7-b, 8-g) Continue with the following words.

1. unilateral ______ a. movement toward mid-line

2. bilateral ______ b. closing an angle

3. abduction ______ c. opening an angle

4. adduction ______ d. pertaining to or affecting both sides

5. flexion ______ e. movement from mid-line

6. extension ______ f. pertaining to or affecting one side

274. (1-f, 2-d, 3-e, 4-a, 5-b, 6-c) If you were able to complete frames 266 through 274 with no more than 10 errors, you are ready to take the final test. If you made more than 10 errors, return to page 35, frame 219, and begin the program.

You will be tested on every word taught in this program. Review any words with which you have experienced difficulty.

MEDICAL ASEPTIC TECHNIQUE

1. When a disease is capable of being transmitted from one person to another it is classified as a contagious disease. A patient who has a disease that can be transmitted to other people is said to have a ______________ ______________.

/ / / / / / / / / / / / / / /

contagious disease

/ / / / / / / / / / / / / / /

2. A contagious disease is sometimes referred to as a communicable disease. If you read that a person has a contagious disease you could also say he had a ______________ disease.

/ / / / / / / / / / / / / / /

communicable

/ / / / / / / / / / / / / / /

3. Two terms that mean a disease can be spread from one person to another are ______________ disease and ______________ disease.

/ / / / / / / / / / / / / / /

contagious - communicable

/ / / / / / / / / / / / / / /

4. There are several ways that a contagious disease may be transmitted. One is by direct contact. One way that a contagious disease can be spread is by ______________ contact.

/ / / / / / / / / / / / / / /

direct

/ / / / / / / / / / / / / / /

5. Direct contact is when the uninfected person gets the disease directly from the infected person. If you were to come into direct contact with a patient who had a contagious disease and you were infected, you would have gotten the disease by ______________ ______________.

/ / / / / / / / / / / / / / /

direct contact

/ / / / / / / / / / / / / / /

6. An example of direct contact is kissing. If an infected person kissed an uninfected person this would be an example of disease spread through ______________ contact.

/ / / / / / / / / / / / / / /

direct

/ / / / / / / / / / / / / / /

7. An uninfected person touches an infected wound of a patient with his bare hands. This would be an example of _____________ contact.

/ / / / / / / / / / / / / / /

direct

/ / / / / / / / / / / / / / /

8. A second way a person may get a contagious disease is by indirect contact. This is when an uninfected person is infected by coming in contact with articles soiled by an infected person. If you handled some trash that contained materials contaminated by organisms from a patient who had a contagious disease, and you got the disease you would have gotten the disease by _____________ contact.

/ / / / / / / / / / / / / / /

indirect

/ / / / / / / / / / / / / / /

9. A third method of transmitting a communicable disease is by ingesting (taking into the body through the mouth) droplets given off by the patient with a contagious disease. If a patient with a contagious respiratory disease sneezed in your face and you got the disease you would have gotten the disease by ingesting the _____________.

/ / / / / / / / / / / / / / /

droplets

/ / / / / / / / / / / / / / /

10. A contagious (communicable) disease is one that can be passed from one human to another by direct or indirect contact or by ingestion of droplets. The complete definition of a contagious (communicable) disease is a disease that can be ________________
____.

/ / / / / / / / / / / / / / /

passed from one human to another by direct or indirect contact or by ingestion of droplets.

/ / / / / / / / / / / / / / /

11. Chicken pox is a _____________ _____________.

/ / / / / / / / / / / / / / /

communicable (contagious) disease

/ / / / / / / / / / / / / / /

12. Allergies cannot be transmitted from one person to another. Allergies _________ _________ contagious diseases.

/ / / / / / / / / / / / / / /

are not

/ / / / / / / / / / / / / / /

13. A contagious disease is only contagious at a specific period during the illness. This period is known as the communicable period. The period during which a disease is contagious is known as the ______________ ______________.

/ / / / / / / / / / / / / / /

communicable period

/ / / / / / / / / / / / / / /

14. During the communicable period the diseased person is giving off the causing organism. The reason the disease is contagious during the communicable period is the diseased person is giving off the ______________ organism.

/ / / / / / / / / / / / / / /

causing

/ / / / / / / / / / / / / / /

15. The full definition of communicable period is the stage of the disease during which it is contagious, or the period during which the patient is giving off the causing organism. Define communicable period of a contagious disease. ________________________

____

____.

/ / / / / / / / / / / / / / /

The period which the disease is contagious, or the period during which the patient is giving off the causing organisms.

/ / / / / / / / / / / / / / /

16. The period of time between the infection of a susceptible person with a contagious disease and the appearance of the first signs and symptoms of the disease is known as the incubation period. A patient who was exposed to a contagious disease may show signs and symptoms at the end of the ______________ ______________.

/ / / / / / / / / / / / / / /

incubation period

/ / / / / / / / / / / / / / /

17. A patient states that he was exposed to chicken pox 14 days ago and today he feels generally ill and lacks energy. The situation the patient just described is the end of the ______________ ______________.

/ / / / / / / / / / / / / / /

incubation period

/ / / / / / / / / / / / / / /

18. If a disease takes 21 days to develop signs and symptoms in a patient, this disease is said to have an incubation period of _______ _________.

//////////////

21 days

//////////////

19. Contagious diseases have a rash or fever that will appear in the patient. The period of time that has elapsed prior to the development of a rash or fever is known as the prodromal period. If a patient comes into the hospital and has a contagious disease but does not yet have the rash or fever he is still in the __________ ___________ of the disease.

//////////////

prodromal period

//////////////

20. A patient comes in to the hospital and states he was exposed to measles 14 days ago and that he has not been feeling well. This morning he noticed he was breaking out in a rash. This patient has just ended the _____________ period of the disease.

//////////////

prodromal

//////////////

21. A patient has been infected with a contagious disease and several days later this patient feels ill. He has been feeling ill for 2 days now, but there is no fever or rash. What 2 stages of the disease has he experienced? (a) ____________________ (b) __________________.

//////////////

incubation period - prodromal period

//////////////

22. It is important that you remember that the incubation period ends with the first signs and symptoms but that the prodromal period continues until the disease develops a rash or fever. Of incubation period and prodromal period, the one that is the first to end is the _____________ _____________.

//////////////

incubation period

//////////////

23. Contagious diseases have some general signs and symptoms that are of nursing importance. These signs and symptoms are not limited to contagious diseases but are present in them. If a patient displays the following signs and symptoms, diaphoresis, malaise, pruritis, or purulent drainage it does not necessarily mean that he has a ____________ ________________.

/ / / / / / / / / / / / / /

contagious disease

/ / / / / / / / / / / / / /

24. Diaphoresis, malaise, pruritis or purulent drainage may be expected in a contagious disease as well as non-contagious diseases. Diaphoresis, malaise, pruritis, or purulent drainage are present in both ______________ diseases and ______________ diseases.

/ / / / / / / / / / / / / /

contagious, non-contagious

/ / / / / / / / / / / / / /

25. If a patient is experiencing excessive perspiration he has the symptoms of diaphoresis (dīa-for-e-sis). Diaphoresis is ______________ ______________.

/ / / / / / / / / / / / / /

excessive perspiration

/ / / / / / / / / / / / / /

26. If you notice a patient is perspiring so that his pajamas and bed linen are wet, you would report to the nurse that your patient is experiencing ______________________.

/ / / / / / / / / / / / / /

diaphoresis

/ / / / / / / / / / / / / /

27. Usually when a patient has a rash he also has an intense itching with it. This intense itching is known as pruritis. Pruritis is the symptom in which the patient experiences ______________ ______________.

/ / / / / / / / / / / / / /

intense itching

/ / / / / / / / / / / / / /

28. When you go into your patient's room he complains that he is itching all over. You would report to the nurse that your patient is experiencing ________________________.

/ / / / / / / / / / / / / /

pruritis

/ / / / / / / / / / / / / /

29. If when you go in to see a patient, he complains of excessive perspiration and intense itching, he is describing the symptoms ______________________________ and ______________________.

/ / / / / / / / / / / / / / /

diaphoresis - pruritis

/ / / / / / / / / / / / / / /

30. Often patients will feel ill but will not be able to be specific about what is the matter with them. This general ill feeling often indicates an infection is present. This ill feeling is called malaise. The general ill feeling that may indicate the presence of an infection is the definition of __________________.

/ / / / / / / / / / / / / / /

malaise

/ / / / / / / / / / / / / / /

31. Contagious disease patients often experience malaise. Malaise is the ____________
____
____.

/ / / / / / / / / / / / / / /

general ill feeling that may indicate the presence of an infection.

/ / / / / / / / / / / / / / /

32. If a patient has open sores with drainage containing pus oozing from them, the drainage is said to be purulent (pure-you-lent). Drainage that contains pus is called ______________ drainage.

/ / / / / / / / / / / / / / /

purulent

/ / / / / / / / / / / / / / /

33. If you notice that a break in the skin contains pus you would report that the break in the skin contained a ______________ substance.

/ / / / / / / / / / / / / / /

purulent

/ / / / / / / / / / / / / / /

QUIZ

34. Match the definitions in column A with the terms in column B. Put the letter to the left of the definition in the space to the left of the term.

Column A	Column B
a. Time interval between infection and the appearance of the first signs and symptoms of the disease.	1. ( ) Contagious disease
b. Intense itching.	2. ( ) Communicable period

c. Containing pus.

d. Excessive perspiration.

e. Symptoms appearing before the rash or fever.

f. General ill feeling often indicating infection.

g. A disease that can be passed from one human to another by direct, indirect contact or ingestion of droplets.

h. The stage of the disease during which it is contagious or the period during which the patient is giving of the causing organism.

3. ( ) Incubation period

4. ( ) Diaphoresis

5. ( ) Prodromal

6. ( ) Pruritis

7. ( ) Purulent

8. ( ) Malaise

/ / / / / / / / / / / / / /

1 (g), 2 (h), 3 (a), 4 (d), 5 (e), 6 (b), 7 (c), 8 (f)

/ / / / / / / / / / / / / /

35. We must provide nursing care for patients with contagious diseases and at the same time not become infected ourselves or allow the organism to be transmitted to other patients we are caring for. Before you can learn how to do this you must understand the meanings of the terms used when describing protective equipment and procedures.

/ / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / /

36. The procedures and techniques used to prevent the spread of communicable disease are collectively called medical aseptic technique. When we use procedures and techniques to prevent the spread of communicable disease we are using __________ __________ __________.

/ / / / / / / / / / / / / /

medical aseptic technique

/ / / / / / / / / / / / / /

37. You have been assigned to care for a patient with a communicable disease. To prevent contaminating yourself, other patients, or clean areas you will use __________ __________ __________.

/ / / / / / / / / / / / / /

medical aseptic technique

/ / / / / / / / / / / / / /

38. Medical aseptic technique is defined as ______________________________________
____.

/ / / / / / / / / / / / / /

procedure and techniques used to prevent the spread of communicable diseases.

/ / / / / / / / / / / / / /

39. The term contaminated has many meanings. When we talk about confining a contagious disease organism we use the following meaning. Contaminated describes a person or object which has or may have come in contact with a contagious disease and has not yet been adequately cleansed or sterilized. If a person or object has or may have come in contact with a contagious disease and has not yet been adequately cleansed or sterilized it is said to be ______________________________________.

/ / / / / / / / / / / / / /

contaminated

/ / / / / / / / / / / / / /

40. Contaminated describes a ___________ or ___________ that has or ______________ ______________ come in contact with a contagious disease and has not yet been adequately cleansed or sterilized.

/ / / / / / / / / / / / / /

person - object - may have

/ / / / / / / / / / / / / /

41. Contaminated describes a person or object which has or may have come in contact with a ___________ ___________ and has not yet been adequately _________ or ___________.

/ / / / / / / / / / / / / /

contagious disease - cleansed - sterilized

/ / / / / / / / / / / / / /

42. A specialist walks into a contagious diseased patient's room without properly protecting himself or his clothing. This specialist must now consider himself___________.

/ / / / / / / / / / / / / /

contaminated

/ / / / / / / / / / / / / /

43. If you are caring for a patient with a contagious disease and he offers you some candy a visitor brought to him, what would you do and why? ______________________

____

/ / / / / / / / / / / / / / /

Refuse the candy politely--it is contaminated because it has come in contact with the patient.

/ / / / / / / / / / / / / / /

44. If a patient in the hospital is infected with a disease other than the one for which he was admitted, we classify this as a cross infection. If you were in the hospital for the treatment of a severe muscle strain, and after 18 days developed a case of measles, you would probably determine the cause resulted from ____________ ____________

/ / / / / / / / / / / / / / /

cross infection

/ / / / / / / / / / / / / / /

45. Cross infection is often used to describe the carrying of an infectious organism from one patient to another. Besides cross infection meaning a patient contracting an infectious disease other than the one for which he was admitted, it also refers to carrying of an ____________ organism from one patient to another.

/ / / / / / / / / / / / / / /

infectious

/ / / / / / / / / / / / / / /

46. Letting the soiled linen of one patient's bed touch your uniform and then going into another patient's room and offering him care presents the possibility of __________ ____________.

/ / / / / / / / / / / / / / /

cross infection

/ / / / / / / / / / / / / / /

47. Cross infection has two common meanings (a) ______________________________

____

(b) ____

____

/ / / / / / / / / / / / / / /

(a) a patient being infected by infectious disease other than the one for which he was admitted.

(b) carrying of an infectious organism from one patient to another. (or words that mean the same.)

/ / / / / / / / / / / / / / /

48. One of the ways we have of freeing contaminated objects of the infectious organisms is by disinfection. To free an object of infectious organisms is to ________________ that object.

/ / / / / / / / / / / / / / /

disinfect

/ / / / / / / / / / / / / / /

49. We can disinfect in two ways, physical and chemical. If we disinfect we can do it either by ______________ or ______________ means.

/ / / / / / / / / / / / / / /

physical - chemical

/ / / / / / / / / / / / / / /

50. Physical disinfection is when a machine is used. An incinerator is an example of ______________ disinfection.

/ / / / / / / / / / / / / / /

physical

/ / / / / / / / / / / / / / /

51. Chemical disinfection is when a solution is used as a disinfecting agent. If a contaminated object is soaked in wescodyne solution we would recognize this as a ______________ disinfection.

/ / / / / / / / / / / / / / /

chemical

/ / / / / / / / / / / / / / /

52. Based on the information you just learned, what do we mean by disinfect? __________
____.

/ / / / / / / / / / / / / / /

free from infection by physical or chemical means.

/ / / / / / / / / / / / / / /

53. When we need to disinfect an object that has been contaminated by a harmful bacteria (one cell plant organism) we would have to use a physical or chemical means that will kill this bacteria. The term that means bacteria destroying is bacteriocidal (back-tear-e-o-sy-dal). If we use a disinfectant that will destroy bacteria we would say this disinfectant was ________________.

/ / / / / / / / / / / / / / /

bacteriocidal

/ / / / / / / / / / / / / / /

54. Your contagious disease patient has recovered from the communicable period of his disease. He was infected by a bacteria organism. You will now disinfect his room with a ____________________ disinfectant.

/ / / / / / / / / / / / / /

bacteriocidal

/ / / / / / / / / / / / / /

55. Bacteriodical means _______________ _______________.

/ / / / / / / / / / / / / /

destroys bacteria

/ / / / / / / / / / / / / /

56. We know how objects that are contaminated can be disinfected by physical or chemical means. To keep the need of disinfecting objects to a minimum we have techniques to keep the organism in a well defined area and thereby keep the clean area from being contaminated.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

57. One method we have of keeping the infectious organism in a well defined area is by isolating the patient who has the communicable disease. Isolation is defined as measures used to separate patients with a contagious disease from people who do not have the same disease. Separating a patient from other patients who do not have the same disease is called _____________________.

/ / / / / / / / / / / / / /

isolation

/ / / / / / / / / / / / / /

58. When a patient is admitted to the hospital with a contagious disease he is often placed in a private room and not permitted to come out of that room until he has progressed beyond the communicable period. We would be using medical aseptic technique by means of ____________________ the patient.

/ / / / / / / / / / / / / /

isolating

/ / / / / / / / / / / / / /

59. A patient had Influenza and was placed on a ward with patients who had the same disease. Influenza is a contagious disease so this ward would be an ______________ ward for Influenza patients.

/ / / / / / / / / / / / / /

isolation

/ / / / / / / / / / / / / /

60. We do not live in an infection free environment. Yet we do not always have infections that make us ill or endanger our lives. The reason is we build up a resistance to these diseases. Our body contains protective devices such as our skin or anti infection agents in our blood. If any of these defenses are broken down we get infections.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

61. When these natural defenses are broken down we must now protect the patient from the infectious organisms normally found in our environment. This protection technique is called reverse isolation. Protecting a patient from organisms normally found in his environment is called ____________ ____________.

/ / / / / / / / / / / / / /

reverse isolation

/ / / / / / / / / / / / / /

62. In normal isolation the patient has the organism that can infect us and contaminate the clean areas of the hospital. In reverse isolation we have the organisms that can infect the patient. Reverse isolation differs from isolation because ______________
____.

/ / / / / / / / / / / / / /

reverse isolation--we can infect the patient
isolation--the patient can infect us.

/ / / / / / / / / / / / / /

63. A patient has chicken pox. Chicken pox is a ______________ disease and the patient is placed in ______________.

/ / / / / / / / / / / / / /

contagious - isolation

/ / / / / / / / / / / / / /

64. A patient has most of his body burned and a major infection protection, the skin, is gone. You can expect this patient to be in ______________ _________________.

/ / / / / / / / / / / / / / /

reverse isolation

/ / / / / / / / / / / / / / /

65. Patients who have heart transplants are given medicines to lower the body's ability to react to foreign tissue. This medicine also destroys the patient's ability to resist disease organisms normally found in our environment. These patients are placed on ______________ ______________.

/ / / / / / / / / / / / / / /

reverse isolation

/ / / / / / / / / / / / / / /

66. In both isolation and reverse isolation we must carry out nursing care. In order to do this we must use devices to separate the clean areas from the contaminated areas. These devices are called barriers. Barriers are devices used to separate ___________ areas from ______________ areas.

/ / / / / / / / / / / / / / /

clean - contaminated

/ / / / / / / / / / / / / / /

67. A device placed between the clean area and the contaminated area is referred to as a ______________.

/ / / / / / / / / / / / / / /

barrier

/ / / / / / / / / / / / / / /

68. To prevent yourself from ingesting droplets coughed out by a contagious disease patient you will wear a mask. A mask is an example of a ______________.

/ / / / / / / / / / / / / / /

barrier

/ / / / / / / / / / / / / / /

69. To prevent you from contaminating your uniform while accomplishing nursing care of an isolation patient you will wear a gown. The gown is an example of a ______________.

/ / / / / / / / / / / / / / /

barrier

/ / / / / / / / / / / / / / /

70. To prevent you from infecting a burn patient who is on reverse isolation you will wear a germ free gown, gloves, and a mask. These are examples of ______________.

////////////////

barriers

////////////////

QUIZ

71. Match the definition in column A with the terms in column B. Place the letter to the left of definition in the blank space to the left of the term.

Column A

a. Infection with an infectious disease other than the original infection for which a patient was admitted or carrying organisms from one patient to another.

b. Measures used to separate patients with a contagious disease from people who do not have the same disease.

c. Measures used to protect an extremely susceptible patient from exposure to organisms normally found in his environment.

d. Used to describe persons or objects which have or may have come in contact with infectious agents and have not yet been adequately cleansed or sterilized.

e. Devices used to separate clean objects or areas from contaminated areas.

f. To free from infection by physical or chemical means.

g. Procedures and techniques used to prevent the spread of a communicable disease.

h. Destroys bacteria.

Column B

1. ( ) Contaminated
2. ( ) Medical Aseptic Technique
3. ( ) Cross Infection
4. ( ) Disinfect
5. ( ) Bacteriocidal
6. ( ) Isolation
7. ( ) Reverse Isolation
8. ( ) Barrier

///////////////

1 (d), 2 (g), 3 (a), 4 (f), 5 (h), 6 (b), 7 (c), 8 (e)

///////////////

LIFTING AND MOVING

1. The position of the body is referred to as posture. If you wanted to refer to the position of the body you would refer to the body's ______________.

/ / / / / / / / / / / / / / /

posture

/ / / / / / / / / / / / / / /

2. When a person is standing his body is in standing ______________.

/ / / / / / / / / / / / / / /

posture

/ / / / / / / / / / / / / / /

3. When we position the body parts in proper alignment so as to avoid stress and strain on any body part we call this body alignment. Body alignment is the positioning of the body parts to avoid __________ and __________ on any body part.

/ / / / / / / / / / / / / / /

stress, strain

/ / / / / / / / / / / / / / /

4. A patient is lying in bed with his neck straight and his shoulders, hips and knees in straight alignment. This patient is said to be in good ____________ ____________.

/ / / / / / / / / / / / / / /

body alignment

/ / / / / / / / / / / / / / /

5. Correct body alignment is when the body parts are in __________ anatomical alignment so as to ____________ ____________ or ____________ on any body part.

/ / / / / / / / / / / / / / /

proper--avoid--stress--strain

/ / / / / / / / / / / / / / /

6. When we talk about the efforts of the body to produce motion we are talking about Body Mechanics. A patient walking in the hall or sitting up is producing motion and therefore is employing __________ ______________.

/ / / / / / / / / / / / / / /

body mechanics

/ / / / / / / / / / / / / / /

118

7. When a person is able to stand without falling over we say that he has good equalibrium. When you see a person standing on an elevator without falling down you are aware of his good __________________.

/ / / / / / / / / / / / / / /

equilibrium

/ / / / / / / / / / / / / / /

8. The ability to maintain equilibrium is part of body mechanics. We can say that body mechanics involves the body producing ______________ and maintaining ___________.

/ / / / / / / / / / / / / / /

motion--equilibrium

/ / / / / / / / / / / / / / /

9. The producing of motion and maintaining of equilibrium is possible through the coordinated use of body parts. Therefore if we see a patient walking normally down the hall we can assume that he is producing his motions and maintaining his equilibrium through the ____.

/ / / / / / / / / / / / / / /

coordinated use of body parts

/ / / / / / / / / / / / / / /

10. The coordinated use of body parts to produce motion and maintain equilibrium is called __________________ __________________.

/ / / / / / / / / / / / / / /

body mechanics

/ / / / / / / / / / / / / / /

11. Body mechanics is ____
____.

/ / / / / / / / / / / / / / /

coordinated use of body parts to produce motion or maintain equilibrium.

/ / / / / / / / / / / / / / /

12. Unlike the healthy person in bed, a patient is often instructed by his doctor to lie in a particular position. The medical service specialist must know how these positions are accomplished so he will be able to instruct the patient in moving to these positions.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

13. When a patient is ordered to lie in the supine position he will be on his back with his face and toes up. If you saw a patient in bed with his face and toes up he would be in the _________ position.

/ / / / / / / / / / / / / /

supine

/ / / / / / / / / / / / / /

14. In what position is the patient in when he is in the supine position? ___________
____.

/ / / / / / / / / / / / / /

on his back, face and toes up

/ / / / / / / / / / / / / /

15. The prone position is the opposite position. In the prone position the patient is on his stomach with his face to one side and his toes pointing downward toward the mattress. If we saw a patient on his stomach with his face to one side and his toes pointing downward we would describe his position as the _________ position.

/ / / / / / / / / / / / / /

prone

/ / / / / / / / / / / / / /

16. The prone position is when the patient is on his ______________________________
____.

/ / / / / / / / / / / / / /

stomach with his face to one side and his toes pointing downward.

/ / / / / / / / / / / / / /

17. For the comfort of the patient the toes would be kept off the mattress by putting a pillow under the lower legs. To keep pressure off the toes we would put a pillow
____.

/ / / / / / / / / / / / / /

under the lower legs.

18. Distinguish between Supine and Prone positions.

Supine ____.
Prone ____.

/ / / / / / / / / / / / / /

Supine--on back, face and toes up.
Prone--on stomach, face to side, toes down but off mattress.

/ / / / / / / / / / / / / /

19. When the patient is sitting in bed with the head of the bed raised high and the lower bed slightly raised at the knees the patient is in a Fowler's position. The Fowler's position is when the patient is sitting up with ______________________________ ____.

/ / / / / / / / / / / / / / /

the head of the bed raised high and the lower bed slightly raised at the knees.

/ / / / / / / / / / / / / / /

20. The doctor orders the patient to be sitting in bed with the head of the bed raised high but the knees only slightly elevated. This position is the __________ position.

/ / / / / / / / / / / / / / /

Fowler's

/ / / / / / / / / / / / / / /

21. When we raise the patient's head of the bed only half way we use the prefix semi to denote this. The prefix _________ means half.

/ / / / / / / / / / / / / / /

semi

/ / / / / / / / / / / / / / /

22. When the patient is in the sitting position with the head of the bed raised only half way and the knees slightly flexed we call this position the ______ Fowler's position.

/ / / / / / / / / / / / / / /

semi

/ / / / / / / / / / / / / / /

23. The semi Fowler's position is when the patient is in the sitting position with the head of the bed raised _________ way up and the knees _________ flexed.

/ / / / / / / / / / / / / / /

half - slightly

/ / / / / / / / / / / / / / /

24. What is the difference between Fowler's position and semi Fowler's position? ____.

/ / / / / / / / / / / / / / /

Semi Fowler's position -- the bed is raised only half way.

/ / / / / / / / / / / / / / /

25. Not all the positions the patient is put in on the bed involve him lying on the mattress. Sometimes he will be too weak to get out of bed but strong enough to sit on the side of the bed.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

26. After a long stay in bed the doctor may wish the patient to sit on the side of the bed rather than stand up immediately. When a patient has been a bed patient for some time you may expect the doctor to order the patient to __________ __________ __________ __________ of the bed rather than stand up right away.

/ / / / / / / / / / / / / /

sit on the side

/ / / / / / / / / / / / / /

27. Sitting on the side of the bed is called dangling because the legs dangle over the side of the bed. If you saw a bed patient sitting on the side of the bed with his feet hanging over the edge you would call that position ______________.

/ / / / / / / / / / / / / /

dangling

/ / / / / / / / / / / / / /

28. A patient that is only strong enough to dangle at the bedside will need support for his feet and upper body. If you saw a bed patient sitting at the bedside dangling, you would not expect to see him sitting there without __________ for his feet and upper body.

/ / / / / / / / / / / / / /

support

/ / / / / / / / / / / / / /

29. A chair is often used to support a patient's feet while he dangles his feet at the side of the bed. If you saw a patient dangling, you would expect to see a __________ __________ his feet.

/ / / / / / / / / / / / / /

chair - under

/ / / / / / / / / / / / / /

30. An over bed table is often used for the patient to lean on to support his upper body while he dangles. The purpose of the over bed table is to support the patient's ___________ ___________.

///////////////

upper body

///////////////

31. Dangling is accomplished by ____ ____.

///////////////

sitting the patient on the side of the bed with his feet supported by a chair and his upper body supported by an over bed table.

///////////////

QUIZ

32. Match the terms in column A to the definitions in column B. Put the letter to the left of the definition in the space to the left of the term.

Column A

1. ( ) Posture
2. ( ) Body mechanics
3. ( ) Prone
4. ( ) Fowler's position
5. ( ) Dangling
6. ( ) Body alignment
7. ( ) Semi-Fowler's position
8. ( ) Supine

Column B

a. Sitting position in bed with head of bed raised high and lower bed raised slightly at the knees.

b. Positioning body parts in proper anatomical alignment so as to avoid stress or strain on any part.

c. Sitting position in bed with head of bed raised halfway and lower bed raised slightly at the knees.

d. Lying on back with face and toes up.

e. Position of the body.

f. Sitting at side of bed, feet supported by chair and upper body supported by over bed table.

g. Lying on stomach with face turned to side and toes pointing down with pillow under lower legs to keep toes off mattress.

h. The coordinated use of body parts to produce motion and maintain equalibrium.

///////////////

1 (e), 2 (h), 3 (g), 4 (a), 5 (f), 6 (b), 7 (c), 8 (d)

///////////////

DIETS

1. A part of the patient's therapy that is often overlooked in importance by him, is his diet. The patient's diet is a constant concern of the nursing team and therefore a knowledge of the terms used in this area is necessary. This portion of the program will be concerned with dietary terms.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

2. The definition of a diet is the regulation of food intake according to body requirements. When a doctor regulates the food intake of a patient's body requirements the doctor is prescribing the patient's ___________.

/ / / / / / / / / / / / / / /

diet

/ / / / / / / / / / / / / / /

3. The definition of a diet is the ____
____.

/ / / / / / / / / / / / / / /

regulation of food intake according to body requirements.

/ / / / / / / / / / / / / / /

4. Nutrition is the science concerned with the use of food by the body. The science concerned with the use of food by the body is ______________.

/ / / / / / / / / / / / / / /

nutrition

/ / / / / / / / / / / / / / /

5. The state the body is in resulting from the food taken in and utilized is also a definition of nutrition. If we refer to the state the body is in resulting from food taken in and utilized, we would be referring to ______________.

/ / / / / / / / / / / / / / /

nutrition

/ / / / / / / / / / / / / / /

6. Write two definitions for the term nutrition.

a. ____.

b. ____
____.

/ / / / / / / / / / / / / / /

a. the science concerned with the use of food by the body.

b. the state the body is in resulting from the food taken in and utilized.

/ / / / / / / / / / / / / / /

7. Clinical compounds found in food and used by the body are called nutrients. Vitamins, minerals, proteins and water are found in food and are used by the body. These chemical compounds are called __________________.

/ / / / / / / / / / / / / / /

nutrients

/ / / / / / / / / / / / / / /

8. The definition of nutrients is ____
____.

/ / / / / / / / / / / / / / /

chemical compounds found in food and used by the body.

/ / / / / / / / / / / / / / /

9. Sugars and starches in the diet are called carbohydrates. If a patient's diet contains a large amount of sugars and starches we say it is high in ________________.

/ / / / / / / / / / / / / / /

carbohydrates

/ / / / / / / / / / / / / / /

10. Carbohydrates are used by the body to produce heat and energy. The body uses carbohydrates to produce ______________ and ______________.

/ / / / / / / / / / / / / / /

heat - energy

/ / / / / / / / / / / / / / /

11. Carbohydrates are chemical compounds of sugars and starches that are used by the body. Carbohydrates are therefore a classification of __________________.

/ / / / / / / / / / / / / / /

nutrients

/ / / / / / / / / / / / / / /

QUIZ

12. Write the term in the blank space next to the statement that is being described by that statement.

a.	(____________________)	Sugars and starches used to produce heat and energy.
b.	(____________________)	The regulator of food intake to the body requirements.
c.	(____________________)	Chemical compounds usable by the body which are found in food.
d.	(____________________)	The science concerned with use of food by the body or the state which the body is in resulting from the food taken in and utilized.

/ / / / / / / / / / / / / / /

a. Carbohydrates c. Nutrients d. Nutrition
b. Diet

/ / / / / / / / / / / / / / /

13. Compounds that are insoluable in water and greasy to touch are called fats. Greasy compounds that are insoluable in water are ____________.

/ / / / / / / / / / / / / / /

fats

/ / / / / / / / / / / / / / /

14. Fats supply the body with heat and energy. Compounds that are greasy to the touch and insoluable in water which produce heat and energy are _______________.

/ / / / / / / / / / / / / / /

fats

/ / / / / / / / / / / / / / /

15. Two nutrients that supply the body with heat and energy are ______________________ and ____________________.

/ / / / / / / / / / / / / / /

carbohydrates - fats

/ / / / / / / / / / / / / / /

16. Protein is the chief substance of animal tissue and some plant fibers. It is an essential to all living organisms. The chief substance of animal tissue and some plant fibers that is essential to all living organisms is ____________________.

/ / / / / / / / / / / / / / /

protein

/ / / / / / / / / / / / / / /

17. The chief function of protein in the body is to build or repair body tissue. If a child is growing rapidly we know that he will need a high __________ diet to build new tissue.

///////////////

protein

///////////////

18. We are constantly wearing out tissue in the body. In order to repair this tissue or build new tissue we would need a diet that contained __________________________.

///////////////

protein

///////////////

19. To a lesser degree than carbohydrates and fats, proteins can be used by the body to produce heat and energy. Proteins not only are used to build new tissue and repair tissue but also may be used to provide _____________ and _____________.

///////////////

heat - energy

///////////////

20. Vitamins are defined as regulatory substances found in food which are necessary in very small amounts for life and good health. Regulatory substances found in food in small amounts and are necessary for life and good health are _____________.

///////////////

vitamins

///////////////

21. Vitamins A, B complex, C, and D are found in our food in small amounts but are necessary for _____________ and _____________.

///////////////

life - good health

///////////////

22. Our diet is composed of organic and inorganic substances. Organic substances are substances made up of tissue that is alive or once was alive. Inorganic substances are substances that were never alive. Examples of inorganic substances are calcium, iron and phosphorous.

///////////////

No response required

///////////////

23. Minerals are inorganic chemical elements or compounds found in the human body. The human body contains inorganic chemical elements and compounds. They are referred to as ________________.

/ / / / / / / / / / / / / / /

minerals

/ / / / / / / / / / / / / / /

24. Minerals are a necessary ingredient in cell structure and function. Inorganic chemical elements or compounds found in the human body that are necessary for cell structure and function are called ____________.

/ / / / / / / / / / / / / / /

minerals

/ / / / / / / / / / / / / / /

25. Calcium and iron are two inorganic elements found in the human body that are necessary for cell structure and function. Calcium and iron are examples of the ____________ nutrient group.

/ / / / / / / / / / / / / / /

mineral

/ / / / / / / / / / / / / / /

26. Metabolism is a complex process carried on by the body. We will list its steps before stating its definition.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

27. The first step of metabolism is absorption. In absorption the food nutrients are taken with the body system from the digestive tract (stomach and intestines). The first part of the complex process of metabolism is ________________.

/ / / / / / / / / / / / / / /

absorption

/ / / / / / / / / / / / / / /

28. The second step of metabolism occurs when these absorbed nutrients are chemically changed in substances or energy the body can use. Metabolism now includes absorption of and ____________ ____________ nutrients.

/ / / / / / / / / / / / / / /

chemically changed

/ / / / / / / / / / / / / / /

29. After the nutrients have been chemically changed they are appropriately used by the body. The third stage of metabolism is ______________ ________ of the absorbed and chemically changed nutrients.

/ / / / / / / / / / / / / / /

appropriate use

/ / / / / / / / / / / / / / /

30. The final step of metabolism is the excretion of waste. This waste is left over from the chemical changing and use processes of metabolism. Metabolism is divided into four parts (1) absorption, (2) chemical change, (3) appropriate use, and (4)_________.

/ / / / / / / / / / / / / / /

elimination

/ / / / / / / / / / / / / / /

31. Metabolism is therefore defined as the complex process by which nutrients are absorbed, chemically changed, appropriately used and finally excreted as waste.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

32. Define metabolism ____

____

____.

/ / / / / / / / / / / / / / /

the complex process by which nutrients are absorbed, chemically changed, appropriately used and finally excreted as waste.

/ / / / / / / / / / / / / / /

QUIZ

33. Fill in the blank to the left of each statement with the term that is most accurately described by the statement.

a. (________________________) Inorganic elements or compounds found in the body which are necessary to cell function and structure.

b. (________________________) Compounds insoluable in water and greasy to touch which supply the body heat and energy.

c. (________________________) The complex process by which nutrients are absorbed, chemically changed, appropriately used and finally excreted as waste.

d. (______________________) A chief substance of animal tissue and some plant fibers. An essential to all living organisms. It supplies the body with material to build new tissue, repair tissue, supply heat and energy.

e. (______________________) Regulatory substances found in food which are necessary in very small amounts for life and good health.

//////////////

a. minerals

b. fats

c. metabolism

d. protein

e. vitamins

//////////////

SURGICAL ASEPTIC TECHNIQUE

1. Procedures and techniques used to prevent the infection of wounds, damaged skin areas and body cavities are collectively called Surgical Aseptic Technique. The definition of surgical aseptic techniques is the ____________________ and techniques used to ____________________ the infection of wounds, damaged skin and body cavities.

///////////////

procedures - prevent

///////////////

2. One who accomplishes tasks in such a way as to prevent infection of wounds, damaged skin, and body cavities is practicing ______________ ______________ ______________.

///////////////

Surgical Aseptic Technique

///////////////

3. A common abbreviation of Surgical Aseptic Technique is S.A.T. Surgical Aseptic Technique is commonly abbreviated _ _ _.

///////////////

S.A.T.

///////////////

4. In the practice of S.A.T., we commonly use terms to describe the degree of freedom from microorganisms that exists in a particular object. These terms are clean and sterile. Two classifications for degree of freedom from microorganisms are __________ and __________.

///////////////

clean - sterile

///////////////

5. In the health care fields we say that an article is clean when it is free from disease causing organisms. An article is clean when it is ____.

///////////////

free from disease causing organisms

///////////////

6. When an article is free from all microorganisms, both pathogenic and nonpathogenic, it is said to be sterile. Sterile is defined as being free from ____ ______________.

///////////////

all microorganisms both pathogonic and nonpathogenic

///////////////

7. The laboratory technician is able to grow microorganisms taken from a culture of an instrument. None of these organisms were disease producing organisms. This instrument is classified as ______________.

/ / / / / / / / / / / / / /

clean

/ / / / / / / / / / / / / /

8. Careful inspection of a culture under a microscope shows that there are no living organisms on it. This culture specimen is said to be sterile.

/ / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / /

9. Items used every day in the world are not naturally sterile. They must be sterilized. The process of sterilizing an object is called sterilization.

/ / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / /

10. A specific definition of sterilization is the chemical or mechanical destruction of all microorganisms. The chemical or mechanical destruction of all microorganisms is called ___________________.

/ / / / / / / / / / / / / /

sterilization

/ / / / / / / / / / / / / /

11. The preferred method of sterilization is mechanical sterilization. The method of sterilization that you will see used most often is ___________________ sterilization.

/ / / / / / / / / / / / / /

mechanical

/ / / / / / / / / / / / / /

12. An example of a mechanical means of sterilization is the machine called autoclave. An autoclave is a means of ___________________ ___________________.

/ / / / / / / / / / / / / /

mechanical sterilization

/ / / / / / / / / / / / / /

13. An autoclave is an apparatus used to sterilize by steam or gas under pressure. An autoclave is an apparatus used to sterilize by ________________ or ________________.

/ / / / / / / / / / / / / / /

steam - gas under pressure

/ / / / / / / / / / / / / / /

14. The definition of an autoclave is ____
____.

/ / / / / / / / / / / / / / /

an apparatus used to sterilize by steam or gas under pressure

/ / / / / / / / / / / / / / /

15. If operated properly an autoclave will kill ______ microorganisms on an instrument or in a pack.

/ / / / / / / / / / / / / / /

all

/ / / / / / / / / / / / / / /

16. The process of destroying most pathogenic microorganisms is known as disfecting.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

17. Disinfection is the process of ____.

/ / / / / / / / / / / / / / /

destroying most pathogenic microorganisms

/ / / / / / / / / / / / / / /

QUIZ

18. Match the definitions in column A with the terms in column B. Place the letter to the left of your choice in column B in the spaces next to the term in column A.

Column A	Column B
a. Chemical or mechanical destruction of all microorganisms.	( ) Surgical Aseptic Technique
b. Free from disease causing organisms	( ) Clean
c. Procedures and techniques used to prevent the infection of wounds, damaged skin areas, and body cavities.	( ) Sterile

d. Apparatus used for sterilizing by steam or gas under pressure.	( ) Sterilization
e. Free from all microorganisms. (Pathogenic and nonpathogenic.)	( ) Autoclave
f. Destroying most pathogenic microorganisms.	( ) Disinfection

/ / / / / / / / / / / / / / /

1 (c), 2 (b), 3 (e), 4 (a), 5 (d), 6 (f)

/ / / / / / / / / / / / / / /

NURSING CARE OF THE SURGICAL PATIENT

1. The next two terms are concerned with nursing care before and after surgery. Part of the explanation will be concerned with definitions. In the case of care rendered after surgery, we will not only give the definition, but explain the purpose of this care. If one understands the purposes of a set of procedures, one is better able to see how each part enhances the other parts, and how the nursing team is guiding the patient in a predetermined direction set by the doctor.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

2. Preoperative care is all phases of care given to the patient prior to surgery. All phases of care given to the patient prior to surgery is collectively referred to as ________________ __________________.

/ / / / / / / / / / / / / / /

preoperative care

/ / / / / / / / / / / / / / /

3. A patient must be prepared emotionally. Part of the preparation of a patient for surgery is the ________________ preparation.

/ / / / / / / / / / / / / / /

emotional

/ / / / / / / / / / / / / / /

4. An explanation of the surgical procedure to be done and what the patient can expect after surgery is part of the ____________________ preparation of preoperative care.

/ / / / / / / / / / / / / / /

emotional

/ / / / / / / / / / / / / / /

5. Physical preparation is a second part of preoperative care. Shaving the operative site is an example of ________________ preparation in preoperative care.

/ / / / / / / / / / / / / / /

physical

/ / / / / / / / / / / / / / /

6. All phases of care given to the patient prior to surgery, which includes the preparation of the patient for the surgical procedure are collectively called ___________ ______________.

/ / / / / / / / / / / / / / /

preoperative care

/ / / / / / / / / / / / / / /

7. Postoperative care is the care given to a patient after surgery. Care given to the patient after surgery is collectively called ____________________________________.

/ / / / / / / / / / / / / / /

postoperative care

/ / / / / / / / / / / / / / /

8. Postoperative care is ____ ____________________________________.

/ / / / / / / / / / / / / / /

the care given to a patient after surgery

/ / / / / / / / / / / / / / /

9. One of the purposes of postoperative care is to prevent complications. Some of the procedures accomplished by the nursing team for a patient after he has had surgery are designed to prevent _______________.

/ / / / / / / / / / / / / / /

complications

/ / / / / / / / / / / / / / /

10. One common complication of the postoperative condition is hypostatic pneumonia (pooling of secretions in the lungs due to shallow breathing and inactivity). To prevent this condition from occurring we turn the patient every two hours and have him deep breath and cough. The turning, deep breathing and coughing are examples of nursing care given to ________________ __________________.

/ / / / / / / / / / / / / / /

prevent complications

/ / / / / / / / / / / / / / /

11. A second purpose of postoperative care is to relieve discomfort. Two purposes of postoperative care are (a) ______________________________ and (b) ______________ ______________.

/ / / / / / / / / / / / / / /

(a) prevent complications, (b) relieve discomfort

/ / / / / / / / / / / / / / /

12. Positioning a patient so that he is as comfortable as possible is an example of postoperative care given to ____________ ______________.

/ / / / / / / / / / / / / / /

relieve discomfort

/ / / / / / / / / / / / / / /

13. Administering prescribed analgesics to a patient when they are required and can safely be given is an example of postoperative care given to ______________ ______________.

/ / / / / / / / / / / / / / /

relieve discomfort

/ / / / / / / / / / / / / / /

14. A third purpose of postoperative care is to rehabilitate the patient. Three purposes of postoperative care are (a) ____________ ____________, (b) ____________ ____________, and (c) ____________ ____________.

/ / / / / / / / / / / / / / /

(a) prevent complications, (b) relieve discomfort, (c) rehabilitate the patient.

/ / / / / / / / / / / / / / /

15. Rehabilitation involves getting the patient back to as normal function as possible. Assisting the patient, who has had abdominal surgery, to ambulate is an example of postoperative care designed to ____________ ________ ____________.

/ / / / / / / / / / / / / / /

rehabilitate the patient

/ / / / / / / / / / / / / / /

16. Postoperative care is the care given to a patient after surgery, which is designed to prevent complications, relieve discomfort, and rehabilitate the patient.

/ / / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / / /

18. Fill in the blanks to the left of each statement with the term the statement most accurately describes.

a. (__________________________)	All phases of care given to the patient prior to surgery, which includes the preparation of a patient for the surgical procedure.
b. (__________________________)	Care given to the patient after surgery, which is designed to prevent complications, relieve discomfort, and rehabilitate the patient.

/ / / / / / / / / / / / / /

a. Preoperative care

b. Postoperative care

/ / / / / / / / / / / / / /

RESPIRATORY SYSTEM

1. Before describing the areas of the body that are involved with anatomy and physiology of the respiratory system, we will explain terms that describe location.

/ / / / / / / / / / / / / /

No response required

/ / / / / / / / / / / / / /

2. To denote the upper portion or above the term superior is used. If we wanted to denote the upper border of the chest, we would use the term __________________________.

/ / / / / / / / / / / / / /

superior

/ / / / / / / / / / / / / /

3. Superior denotes the _______________ portion or _______________.

/ / / / / / / / / / / / / /

upper - above

/ / / / / / / / / / / / / /

4. The neck is located ____ superior to the chest.

/ / / / / / / / / / / / / /

superior

/ / / / / / / / / / / / / /

5. Below or under is denoted by the term inferior. When denoting under or below, you use the term ______________.

///////////////

inferior

///////////////

6. The abdominal cavity is below the chest. The abdominal cavity is ________________ to the chest.

///////////////

inferior

///////////////

7. Inferior is the term used to denote ___________________ or _____________________.

///////////////

under - below

///////////////

8. Anterior is the term used to indicate in front of or the front part. To indicate in front of or the front part you would use the term ______________.

///////////////

anterior

///////////////

9. The breast bone is in the front part of the chest. The breast bone is ___________ to the chest.

///////////////

anterior

///////////////

10. Anterior indicates _____ ____________ _____ or the ___________ ___________.

///////////////

in front of - front part

///////////////

11. To indicate the back part or behind, you use the term posterior. The term for behind or back part is ___________________.

///////////////

posterior

///////////////

12. One part of the spinal column is behind the chest cavity. We indicate this by stating part of the spinal cord is ______________ to the chest cavity.

/ / / / / / / / / / / / / /

posterior

/ / / / / / / / / / / / / /

13. There is a gland in the body called the pituitary gland, this gland is divided into the front and back sections. These sections are indicated by the term ______________ and ______________ lobes.

/ / / / / / / / / / / / / /

anterior - posterior

/ / / / / / / / / / / / / /

14. The midline is the line that runs down the middle. When referring to anything that is near the midline we use the term medial. Medial means near the __________________.

/ / / / / / / / / / / / / /

midline

/ / / / / / / / / / / / / /

15. The breast bone is located in front of the chest on the midline. We would locate the breast bone by stating it is anterior and ______________ to the chest.

/ / / / / / / / / / / / / /

medial

/ / / / / / / / / / / / / /

16. When you indicate an organ is medial, you are indicating it is near the _________.

/ / / / / / / / / / / / / /

midline

/ / / / / / / / / / / / / /

17. To indicate a part is away from the midline, you use the term lateral. Lateral means ______________________________________.

/ / / / / / / / / / / / / /

away from the midline

/ / / / / / / / / / / / / /

18. The arms are located away from the midline of the body. We would say the arms are ____________________ to the body.

/ / / / / / / / / / / / / / /

lateral

/ / / / / / / / / / / / / / /

19. Away from the midline is indicated by the term ____________________.

/ / / / / / / / / / / / / / /

lateral

/ / / / / / / / / / / / / / /

QUIZ

20. Fill the blanks with the term being described

a. (_________________________) Upper portion or above

b. (_________________________) In front of or front portion

c. (_________________________) Away from the midline

d. (_________________________) In back of or back portion

e. (_________________________) Below or under

f. (_________________________) Near the midline

/ / / / / / / / / / / / / / /

Confirmation

a. Superior

b. Anterior

c. Lateral

d. Posterior

e. Inferior

f. Medial

/ / / / / / / / / / / / / / /

21. The medical term for the chest is Thorax. When referring to the chest, you use the medical term ____________________.

/ / / / / / / / / / / / / / /

Thorax

/ / / / / / / / / / / / / / /

135

22. Thorax is the medical term for __________________.

/ / / / / / / / / / / / / /

chest

/ / / / / / / / / / / / / /

23. The Thorax is the part of the body that is inferior to the neck and superior to the diaphragm. The part of the body that is inferior to the neck and superior to diaphragm is the __________________.

/ / / / / / / / / / / / / /

Thorax

/ / / / / / / / / / / / / /

24. Using medical terminology for location, locate the Thorax. ____.

/ / / / / / / / / / / / / /

inferior to the neck - superior to the diaphragm

/ / / / / / / / / / / / / /

25. The diaphragm (die-a-fram) is a musculomembranous (muscular membrane) wall separating the abdomen from the thoracic cavity. The musculomembranous wall between the thoracic cavity and abdomen is the ______________________.

/ / / / / / / / / / / / / /

diaphragm

/ / / / / / / / / / / / / /

26. The diaphragm will be the ______________ border of the thoracic cavity and the ________________ border of the abdomen.

/ / / / / / / / / / / / / /

inferior - superior

/ / / / / / / / / / / / / /

27. The diaphragm is a ____.

/ / / / / / / / / / / / / /

musculomembranous wall between the thoracic cavity and the abdomen.

/ / / / / / / / / / / / / /

28. The medical term for breastbone is sternum. The medical term for the breastbone is ___________________.

/ / / / / / / / / / / / / /

sternum

/ / / / / / / / / / / / / /

29. Sternum means __________________________.

/ / / / / / / / / / / / / /

breastbone

/ / / / / / / / / / / / / /

30. The sternum is located on the anterior midline of the thorax. Locate the sternum.
____.

/ / / / / / / / / / / / / /

Anterior midline of the thorax

/ / / / / / / / / / / / / /

31. Write the following statement in medical terminology: "The chest is located below the neck and above the diaphragm. Located in front and middle of the chest is the breastbone."

/ / / / / / / / / / / / / /

(The thorax is located inferior to the neck and superior to the diaphragm. Located on the anterior midline of the chest is the sternum.)

/ / / / / / / / / / / / / /

32. When we refer to the nose we may use the prefix naso or the term nasal. The nose is medically referred to by the prefix _______________ or the term ___________________.

/ / / / / / / / / / / / / /

naso - nasal

/ / / / / / / / / / / / / /

33. The nasal turbinates are three scroll-like bones which project medially from the lateral wall of the nasal cavity. The scroll-like bones which project medially from the lateral walls of the nasal cavity are known as the ____________ __________________.

/ / / / / / / / / / / / / /

nasal turbinates

/ / / / / / / / / / / / / /

34. The nasal turbinates are three scroll-like bones which project ________________ from the ________________ walls of the nasal cavity.

/ / / / / / / / / / / / / / /

medially - lateral

/ / / / / / / / / / / / / / /

35. The nasal turbinates are ________________ ________________ ________________ bones which project medially from the lateral walls of the nasal cavity.

/ / / / / / / / / / / / / / /

three - scroll - like

/ / / / / / / / / / / / / / /

36. Write a definition of nasal turbinates that includes their number, description, and location.

____

____

/ / / / / / / / / / / / / / /

Three scroll-like bones which project medially from the lateral walls of the nasal cavity.

/ / / / / / / / / / / / / / /

37. The medical term for the throat is pharynx. To indicate the throat with medical terminology, you use the term ________________.

/ / / / / / / / / / / / / / /

pharynx

/ / / / / / / / / / / / / / /

38. An inflammation of the pharynx is an inflammation of the ________________.

/ / / / / / / / / / / / / / /

throat

/ / / / / / / / / / / / / / /

39. The medical term for throat is ________________.

/ / / / / / / / / / / / / / /

pharynx

/ / / / / / / / / / / / / / /

40. The palate is the roof of the mouth, consisting of a hard bony foreward part (the hard palate), and a soft fleshy back part (the soft palate).

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

41. The uvula is the small soft structure which hangs from the midline of the soft palate superior to the root of the tongue. The small soft structure which hangs from the midline of the soft palate, superior to the root of the tongue is the____________.

/ / / / / / / / / / / / / /

uvula

/ / / / / / / / / / / / / /

42. Define uvula. ____
____
____.

/ / / / / / / / / / / / / /

The small soft structure which hangs from the midline of the soft palate superior to the root of the tongue.

/ / / / / / / / / / / / / /

QUIZ

43. Fill in the blanks with term most accurately described by the statement to the right of the blank.

a. (____________________) Three scroll-like bones which project medially form the lateral wall of the nasal cavity.

b. (____________________) Breastbone.

c. (____________________) Musculomembranous wall separating the thoracic cavity from the abdomen.

d. (____________________) The small soft structure which hangs from the midline of the soft palate superior to the root of the tongue.

e. (____________________) The throat.

f. (____________________) The chest.

/ / / / / / / / / / / / / /

Confirmation

a. Nasal turbinates
b. Sternum
c. Diaphragm
d. Uvula
e. Pharynx
f. Thorax

/ / / / / / / / / / / / / /

44. The medical term glottis means the back of the tongue. The back of the tongue is the ____________.

/ / / / / / / / / / / / / /

glottis

/ / / / / / / / / / / / / /

45. Glottis is the ____.

/ / / / / / / / / / / / / /

back of the tongue

/ / / / / / / / / / / / / /

46. The epiglottis is a thin leaf shaped structure located immediately posterior to the glottis. The thin leaf shaped structure located immediately posterior to the glottis is called the ____________.

/ / / / / / / / / / / / / /

epiglottis

/ / / / / / / / / / / / / /

47. The epiglottis is a ____
____.

/ / / / / / / / / / / / / /

a thin leaf shaped structure located immediately posterior to the glottis.

/ / / / / / / / / / / / / /

48. The function of the epiglottis is to cover the entrance to the voice box when swallowing. When a person swallows the entrance of the voice box is covered by the ________________.

/ / / / / / / / / / / / / /

epiglottis

/ / / / / / / / / / / / / /

49. Define epiglottis giving its shape, location, and function. __________________
____
____
____.

/ / / / / / / / / / / / / /

a thin leaf shaped structure located immediately posterior to the glottis.
It covers the entrance of the voice box.

/ / / / / / / / / / / / / /

50. The larynx is the organ that produces voice. The organ that produces voice is the ____________________.

/ / / / / / / / / / / / / / /

larynx

/ / / / / / / / / / / / / / /

51. The lay term, voice box, has the same meaning as the medical term _______________.

/ / / / / / / / / / / / / / /

larynx

/ / / / / / / / / / / / / / /

52. The larynx is located at the enlarged upper end of the trachea. The location of the larynx is at the ____ __________________________________.

/ / / / / / / / / / / / / / /

enlarged upper end of the trachea

/ / / / / / / / / / / / / / /

53. When a person swallows the entrance to his larynx is covered by the_______________.

/ / / / / / / / / / / / / / /

epiglottis

/ / / / / / / / / / / / / / /

54. Trachea is the medical term for the windpipe. When a patient tells you water accidentally got into his windpipe, he is telling you water accidentally entered his ____________________.

/ / / / / / / / / / / / / / /

trachea

/ / / / / / / / / / / / / / /

55. The trachea is the ______________________.

/ / / / / / / / / / / / / / /

windpipe

/ / / / / / / / / / / / / / /

56. The trachea is composed of a series of c-shaped cartilages extending from the larynx to the thorax proper. The trachea is composed of a series of ___- ________________ ________________.

/ / / / / / / / / / / / / /

c- shaped cartilages

/ / / / / / / / / / / / / /

57. The trachea extends from the ______________ to the ________________ ____________.

/ / / / / / / / / / / / / /

larynx - thorax proper

/ / / / / / / / / / / / / /

58. Give the medical term for the windpipe and describe its structure and location.

____
____
____

/ / / / / / / / / / / / / /

Trachea - a series of c-shaped cartileges that extend from the larynx to the thorax proper.

QUIZ

59. Write the medical term, each statement describes, in the blank space provided.

a.	(________________________)	Back of the tongue.
b.	(________________________)	Windpipe composed of c-shaped cartileges that extends from the larynx to the thorax proper.
c.	(________________________)	The organ which produces voice, the enlarged upper end of the trachea.
d.	(________________________)	A thin leaf shaped structure located immediately posterior to the glottis it covers the entrance of the larynx when swallowing.

/ / / / / / / / / / / / / /

Confirmation

a. Glottis

b. Trachea

c. Larynx

d. Epiglottis

/ / / / / / / / / / / / / /

60. We will be using the term primary to describe a structure in the respiratory tract. In this case primary means first.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

61. The primary divisions of the trachea are known as bronchi (plural). The first divisions of the trachea are the ___________________.

/ / / / / / / / / / / / / /

bronchi

/ / / / / / / / / / / / / /

62. The singular form of bronchi is bronchus. You say bronchi, or one ______________.

/ / / / / / / / / / / / / /

bronchus

/ / / / / / / / / / / / / /

63. The bronchi go from the trachea to the lungs. One ______________ goes to each lung.

/ / / / / / / / / / / / / /

bronchus

/ / / / / / / / / / / / / /

64. The definition of the bronchi is the ____ of the ______________.

/ / / / / / / / / / / / / /

primary-divisions-trachea

/ / / / / / / / / / / / / /

65. A bronchiole is a smaller division of the bronchus. A smaller division of the bronchus is the ___________________.

/ / / / / / / / / / / / / /

bronchiole

/ / / / / / / / / / / / / /

66. An alveolus (al-veo-lus) is an air cell in the lung. An air cell in the lung is called an ___________________.

/ / / / / / / / / / / / / /

alveolus

/ / / / / / / / / / / / / /

67. The plural form of alveolus is alveoli (al-veo-li). The plural of the medical term for air cell is ______________.

/ / / / / / / / / / / / / /

alveoli

/ / / / / / / / / / / / / /

68. The pleura (plor-a) is a serous membrane which lines the thoracic cavity and covers the lungs. A serous membrane which lines the thoracic cavity and covers the lungs is known as the ______________.

/ / / / / / / / / / / / / /

pleura

/ / / / / / / / / / / / / /

69. The pleura is a serous membrane which lines the _______________ ________________ and covers the ______________.

/ / / / / / / / / / / / / /

thoracic cavity - lungs

/ / / / / / / / / / / / / /

QUIZ

70. Write the medical term, that is described by each statement, in the blank space to the left of the statement.

a. (________________________) One air cell of the lung.

b. (________________________) Primary divisions of the trachea.

c. (________________________) A serous membrane that lines the thoracic cavity and covers the lungs.

d. (________________________) A smaller division of the bronchi.

e. (________________________) Pleural medical term for air cells of the bronchi.

f. (________________________) Singular medical term for primary division of the trachea.

/ / / / / / / / / / / / / / /

Confirmation

a. Alveolus

b. Bronchi

c. Pleura

d. Bronchiole

e. Alveoli

f. Bronchus

/ / / / / / / / / / / / / / /

71. The terms you have just learned are associated with the anatomy of the thorax and respiratory tract. You will now be concerned with the terms that describe diseases and disorders of the respiratory system.

/ / / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / / /

72. The term paroxysm (per-ox-ism) means a sudden, periodic attack or recurrence of symptoms of a disease. If a person experiences a sudden and periodic or recurrence of a symptom of a disease, we indicate this onset with the term ____________________.

/ / / / / / / / / / / / / / /

paroxysm

/ / / / / / / / / / / / / / /

73. The term paroxysmal is the adjective for of paroxysm. If a symptom has a paroxysmal character, we say the symptom had a __________________ onset.

/ / / / / / / / / / / / / / /

paroxysmal

/ / / / / / / / / / / / / / /

74. The term for difficult or labored breathing is dyspnea (disp-nee-a). A patient has difficult and labored breathing.

/ / / / / / / / / / / / / / /

dyspnea

/ / / / / / / / / / / / / / /

75. A doctor states that his patient has frequent spells of dyspnea. You would observe this patient for ____.

/ / / / / / / / / / / / / / /

labored breathing

/ / / / / / / / / / / / / / /

76. Asthma is the paroxysmal dyspnea accompanied by wheezing sounds. The paroxysmal dyspnea accompanied by wheezing sounds is the description of ____________________.

/ / / / / / / / / / / / / / /

asthma

/ / / / / / / / / / / / / / /

77. One of the causes of the dyspnea and wheezing associated with asthma is spasm of the bronchial tubes. When an asthmatic patient has signs of dyspnea and wheezing, you can suspect that this patient's ______________ ____________ are in spasm.

/ / / / / / / / / / / / / / /

bronchial tubes

/ / / / / / / / / / / / / / /

78. A second possibility for the cause of dyspnea and wheezing associated with asthma is swelling of the mucous membrane that line the bronchial tubes. Dyspnea and wheezing in asthmatic patients may be caused by (1) ______________________________,
(2) ____.

/ / / / / / / / / / / / / / /

(1) spasm of the bronchial tubes, (2) swelling of the mucous membranes that line the bronchial tubes.

/ / / / / / / / / / / / / / /

79. Asthma is the paroxysmal dyspnea accompanied by wheezing, caused by a spasm of the bronchial tubes or swelling of the mucous membranes that lines the bronchial tubes.

/ / / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / / /

80. What is asthma? ____
____
____

/ / / / / / / / / / / / / / /

the paroxysmal dyspnea accompanied by wheezing caused by a spasm of the bronchial tubes or swelling of the mucous membranes that lines the bronchial tubes.

/ / / / / / / / / / / / / / /

81. A collapsed or airless condition of the lung is called atelectasis. Atelectasis is a ____.

/ / / / / / / / / / / / / /

collapsed or airless condition of the lung

/ / / / / / / / / / / / / /

82. A collapsed or airless condition of the lung is called ____________________.

/ / / / / / / / / / / / / /

atelectasis

/ / / / / / / / / / / / / /

83. Atelectasis may be caused by an obstruction to a bronchus or bronchiole. The cause of atelectasis may be an ________________ to a ____________________ or ____________________.

/ / / / / / / / / / / / / /

obstruction-bronchus-bronchiole

/ / / / / / / / / / / / / /

84. Write the definition and cause of atelectasis. ____.

/ / / / / / / / / / / / / /

collapsed or airless lung caused by an obstruction to a bronchus or bronchiole.

/ / / / / / / / / / / / / /

85. A doctor tells you that your patient's X-ray shows that he has a collapsed section of lung due to an obstruction to a bronchial tube. This condition is called ____________________.

/ / / / / / / / / / / / / /

atelectasis

/ / / / / / / / / / / / / /

86. The suffix itis at the end of a medical term means inflammation of. The term appendicitis means an ________________ of the appendix.

/ / / / / / / / / / / / / /

inflammation

/ / / / / / / / / / / / / /

87. An inflammation of the bronchi is the definition of the term bronchitis. Bronchitis is the ____.

/ / / / / / / / / / / / / /

inflammation of the bronchi

/ / / / / / / / / / / / / /

88. Bronchitis may also indicate an inflammation of a bronchiole. If you read the term bronchitis you will know that it means either an inflammation of the ______________ or ______________ tubes.

/ / / / / / / / / / / / / /

bronchi - bronchiole

/ / / / / / / / / / / / / /

89. An inflammation of the bronchi or bronchial tubes is the definition ______________.

/ / / / / / / / / / / / / /

bronchitis

/ / / / / / / / / / / / / /

90. Emphysema is the dilation of the alveoli with loss of normal elasticity of the lung substance. The dilation of the alveoli with loss of normal elasticity of the lung substance is ____________________.

/ / / / / / / / / / / / / /

emphysema

/ / / / / / / / / / / / / /

91. Emphysema is the ____
____.

/ / / / / / / / / / / / / /

dilation of the alveoli with loss of normal elasticity of the lung substance.

/ / / / / / / / / / / / / /

92. Emphysema is the ____________________ of the ____________________ with the ____________ of normal ____________ of the lung substance.

/ / / / / / / / / / / / / /

dilation - alveoli - loss - elasticity

/ / / / / / / / / / / / / /

93. The filling of the alveoli with inflammatory exudates in response to an infection is pneumonia. When the alveoli fill with inflammatory exudate in response to an infection, the condition is called ________________.

/ / / / / / / / / / / / / / /

pneumonia

/ / / / / / / / / / / / / / /

94. The diagnosis of your patient is pneumonia. Pneumonia is ____________________
____
____.

/ / / / / / / / / / / / / / /

the filling of the alveoli with inflammatory exudate in response to an infection.

/ / / / / / / / / / / / / / /

95. A patient develops a infection in his lungs. As a result of this infection his alveoli fill with inflammatory exudate. The condition just described is ____________
____________.

/ / / / / / / / / / / / / / /

pneumonia

/ / / / / / / / / / / / / / /

96. Tuberculosis is an infectious disease, affecting the lungs. Tuberculosis is an ________________ ________________ affecting the ________________________.

/ / / / / / / / / / / / / / /

infectious disease - lungs

/ / / / / / / / / / / / / / /

97. Tuberculosis is caused by the tubercle bacillus. Tuberculosis is an infectious disease, affecting the lungs. It is caused by the ____________ ________________.

/ / / / / / / / / / / / / / /

tubercle bacillus

/ / / / / / / / / / / / / / /

98. An infectious disease affecting the lungs and caused by the tubercle bacillus is known as ________________.

/ / / / / / / / / / / / / / /

tuberculosis

/ / / / / / / / / / / / / / /

99. Give a definition and the cause of tuberculosis. ______________________________

____

____

____.

/ / / / / / / / / / / / / /

An infectious disease affecting the lungs, caused by the tubercle bacillus or words that mean the same.

/ / / / / / / / / / / / / /

QUIZ

100. Fill in the blanks to the left of each statement with the term the statement most accurately describes.

a.	(______________________)	Paroxysmal dyspnea accompanied by wheezing sounds caused by a spasm of the bronchial tubes or swelling of mucous membranes.
b.	(______________________)	An acute inflammation of the bronchi or bronchioles.
c.	(______________________)	An infectious disease effecting the lungs caused by the tubercle bacillus.
d.	(______________________)	A collapsed or airless condition of the lung caused by obstruction to a bronchus or bronchiole.
e.	(______________________)	Filling of the alveoli with inflammatory exudates in response to an infection.
f.	(______________________)	Dilation of the alveoli with loss of normal elasticity of lung substance.

/ / / / / / / / / / / / / /

Confirmation

a. Asthma

b. Bronchitis

c. Tuberculosis

d. Atelectasis

e. Pneumonia

f. Emphysema

/ / / / / / / / / / / / / /

101. The prefix Dys means bad, difficult or painful. If you saw the prefix dys used, you would know it meant ______________, ______________, or ______________.

/ / / / / / / / / / / / / /

bad - difficult - painful

/ / / / / / / / / / / / / /

102. The term pnea and peno pertains to breathing. The two terms that pertain to breathing are ______________ or ______________.

/ / / / / / / / / / / / / / /

pnea - pneo

/ / / / / / / / / / / / / / /

103. Using the prefix for difficult and the term that pertains to breathing (pnea) construct a medical term that means difficult or labored breathing______________________.

/ / / / / / / / / / / / / / /

dyspnea

/ / / / / / / / / / / / / / /

104. Your patient is experiencing difficulty in breathing - this condition is ________.

/ / / / / / / / / / / / / / /

dyspnea

/ / / / / / / / / / / / / / /

105. The prefix A means without or none. Using the prefix A and the term pnea construct a medical term that means the cessation of breathing.

/ / / / / / / / / / / / / / /

apnea

/ / / / / / / / / / / / / / /

106. Your patient experiences dyspnea and then suddenly his breathing stops. This cessation of breathing is called ________________.

/ / / / / / / / / / / / / / /

apnea

/ / / / / / / / / / / / / / /

107. You have learned that the prefix HYPER means increased. Using the prefix for increased and the term pnea construct a medical term that means an abnormal increase in the depth and rate of respiration. ___________________

/ / / / / / / / / / / / / / /

Hyperpnea

/ / / / / / / / / / / / / / /

108. An abnormal increase in the depth and rate of respiration is ____________________.

/ / / / / / / / / / / / / / /

Hyperpnea

/ / / / / / / / / / / / / / /

109. Hyperpnea is the ____

____

/ / / / / / / / / / / / / /

Abnormal increase in the depth and rate of respiration

/ / / / / / / / / / / / / /

110. Oxygenation of the blood is called ventilation. Ventilation is the __________ of the blood.

/ / / / / / / / / / / / / /

oxygenation

/ / / / / / / / / / / / / /

111. There is a normal amount of oxygen and carbon dioxide in the blood. The balance enables the carbon dioxide to regulate respiration. When the oxygen is high in concentration the carbon dioxide is low. This condition will cause respiration to decrease. The opposite condition is also true.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

112. Hyperventilation can be more accurately defined as a depletion of carbon dioxide. A depletion of carbon dioxide in the blood is called ________________________.

/ / / / / / / / / / / / / /

hyperventilation

/ / / / / / / / / / / / / /

113. Hyperventilation is usually the result of hyperpnea. The usual cause of hyperventilation is ______________.

/ / / / / / / / / / / / / /

hyperpnea

/ / / / / / / / / / / / / /

114. Carbon dioxide depletion usually resulting from hyperpnea is called __________.

/ / / / / / / / / / / / / /

hyperventilation

/ / / / / / / / / / / / / /

152

115. Hyperventilation is the ____
____
____

/ / / / / / / / / / / / / /

depletion of carbon dioxide usually resulting from hyperpnea

/ / / / / / / / / / / / / /

116. The term orthos (combing form - ortho) means straight. A term that began with ortho would mean something was __________________.

/ / / / / / / / / / / / / /

straight

/ / / / / / / / / / / / / /

117. When ortho is used with respiratory terms it means upright as in sitting or standing.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

118. Using the term for straight and the term which pertains to breathing, construct a term that means inability to breath except in the upright position __________________.

/ / / / / / / / / / / / / /

orthopnea

/ / / / / / / / / / / / / /

119. You enter a patient's room in response to his call bell. Your patient is lying on the bed and experiencing dyspnea. When you roll his bed up the dyspnea subsides and the patient begins to breathe normally. This condition is described by the medical term __________________.

/ / / / / / / / / / / / / /

orthopnea

/ / / / / / / / / / / / / /

120. Orthopnea is the inability to ____
____.

/ / / / / / / / / / / / / /

breathe except in the upright position

/ / / / / / / / / / / / / /

QUIZ

121. Fill in the blank to the left of each statement with the term that is described by the statement.

a. (____________________) Cessation of breathing.

b. (____________________) Abnormal increase in depth and rate of respiration.

c. (____________________) Inability to breathe except in the upright position.

d. (____________________) Difficult or labored breathing.

e. (____________________) Carbon dioxide depletion usually resulting from hyperpnea.

/ / / / / / / / / / / / / /

Confirmation

a. Apnea

b. Hyperpnea

c. Orthopnea

d. Dyspnea

e. Hyperventilation

/ / / / / / / / / / / / / /

122. Hypoxia is lack of sufficient oxygen to meet the needs of the body tissue. The lack of sufficient oxygen to meet the needs of the tissue is called ________________.

/ / / / / / / / / / / / / /

hypoxia

/ / / / / / / / / / / / / /

123. If a doctor told you a patient was in a condition of hypoxia, you would know this meant your patient lacked ____.

/ / / / / / / / / / / / / /

sufficient oxygen to meet the needs of his body tissues

/ / / / / / / / / / / / / /

124. One of the signs of hypoxia is cyanosis. Cyanosis is defined as blueness of the skin, lips, ear lobes, and finger nails. Blueness of the skin, lips, ear lobes and finger nails is ________________.

/ / / / / / / / / / / / / /

cyanosis

/ / / / / / / / / / / / / /

125. Cyanosis is ____
____.

/ / / / / / / / / / / / / /

blueness of the skin, lips, ear lobes, and finger nails

/ / / / / / / / / / / / / /

126. The prefix hemo means pertaining to blood. If a medical term began with hemo it would pertain to ______________.

/ / / / / / / / / / / / / /

blood

/ / / / / / / / / / / / / /

127. Hemoptysis (He-mop-ti-sis) is the coughing up of blood from the lungs. If a patient is coughing up blood from the lungs, you describe the condition a ____________________.

/ / / / / / / / / / / / / /

hemoptysis

/ / / / / / / / / / / / / /

128. You observe your patient coughing up blood. You will report this condition to the nurse using the medical term ____________________.

/ / / / / / / / / / / / / /

hemoptysis

/ / / / / / / / / / / / / /

129. A collection of blood in the pleural space is hemothorax. Hemothorax is the _____
____
____

/ / / / / / / / / / / / / /

collection of blood in the pleural space

/ / / / / / / / / / / / / /

130. If a patient is admitted to the hospital after an automobile accident with blood in the plural space he will have a diagnosis of ____________________.

/ / / / / / / / / / / / / /

hemothorax

/ / / / / / / / / / / / / /

131. An accumulation of air or gas in the plural cavity is pneumothorax. Pneumothorax is an ____________________________________.

/ / / / / / / / / / / / / /

accumulation of air or gas in the pleural cavity

/ / / / / / / / / / / / / /

132. The doctor states that your patient has a collection of air in his pleural cavity. The term for this condition is ____________.

/ / / / / / / / / / / / / /

pneumothorax

/ / / / / / / / / / / / / /

133. Accumulation of secretions in the lungs are often removed with the assistance of gravity. We position the patient so that his head is lower than his chest and allow the fluids to drain from the lungs to the mouth.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

134. Postural drainage is the removal of secretions by gravity drainage. The removal of secretions by gravity drainage is called ____________ ____________.

/ / / / / / / / / / / / / /

postural drainage

/ / / / / / / / / / / / / /

135. If you entered a room and saw a specialist assisting a patient to lean over the side of the bed with his head lower than his body, you would anticipate that ________ ________ was going to be done.

/ / / / / / / / / / / / / /

postural drainage

/ / / / / / / / / / / / / /

136. Thoracentesis is the removal of air or fluid from the pleural space through a surgical puncture of the chest wall. The surgeon is going to remove air and fluid from the pleural space through a surgical puncture of the chest wall. The name of this procedure is ____________.

/ / / / / / / / / / / / / /

Thoracentesis

/ / / / / / / / / / / / / /

137. Thoracentesis is the removal of ______________ or ______________ from the ______________ ______________ through a surgical puncture of the chest wall.

/ / / / / / / / / / / / / /

air - fluid - pleural space

/ / / / / / / / / / / / / /

138. The removal of air or gas from the pleural space through a ____________________ ____________________ of the chest wall is a thoracentesis.

/ / / / / / / / / / / / / /

surgical puncture

/ / / / / / / / / / / / / /

QUIZ

139. Fill in the blanks to the left of each statement with the term the statement best describes.

a. (________________________) Removal of secretions by gravity drainage.

b. (________________________) Blueness of the skin, lips, ear lobes and finger nails.

c. (________________________) A collection of blood in the pleural space.

d. (________________________) Lack of sufficient oxygen to meet the needs of the body tissue.

e. (________________________) An accumulation of air or gas in the pleural cavity.

f. (________________________) Removal of air or fluid from the pleural space through a surgical puncture of the chest wall.

/ / / / / / / / / / / / / /

Confirmation

a. Postural drainage

b. Cyanosis

c. Hemothorax

d. Hypoxia

e. Pneumothorax

f. Thoracentesis

/ / / / / / / / / / / / / /

Turn the page and take the test

TEST

140. Fill in the blanks to the left of each statement with the medical term that is best described by that statement.

a. (______________________) Three scroll-like bones which project medially from the lateral wall of the nasal cavity.

b. (______________________) The organ which produces voice. The enlarged upper end of the trachea.

c. (______________________) A thin leaf-shaped structure located immediately posterior to the root of the tongue. It covers the entrance of the larynx when swallowing.

d. (______________________) Windpipe-a series of c-shaped cartilege extending from the larynx to the thorax proper.

e. (______________________) A smaller division of one of the bronchi.

f. (______________________) Air cells of the lungs.

g. (______________________) Paroxysmal dyspnea accompanied by wheezing sounds caused by a spasm of the bronchial tubes or swelling of mucous membranes.

h. (______________________) An acute inflammation of the bronchi or bronchioles.

i. (______________________) Filling of the alveoli with inflammatory exudates in response to an infection.

j. (______________________) A cessation of breathing.

k. (______________________) Carbon dioxide depletion usually resulting from hyperpnea.

l. (______________________) Coughing up blood from the lungs.

m. (______________________) An accumulation of air or gas in the pleural cavity.

n. (______________________) Difficult or labored breathing.

o. (______________________) Blueness of the skin, lips, ear lobes, and finger nails.

p. (______________________) Removal of air or fluid from the pleural space through a surgical puncture of the chest wall.

q. (______________________________) A musculomembranous wall separating the abdomen from the thoracic cavity.

r. (______________________________) Breastbone, the flat bone in the anterior midline of the thorax.

s. (______________________________) The inability to breathe except in an upright position.

t. (______________________________) Abnormal increase in the depth and rate of respiration.

/ / / / / / / / / / / / / /

Confirmation to Test

a. Nasal terminates

b. Larynx

c. Epiglottis

d. Trachea

e. Bronchiole

f. Alveoli

g. Asthma

h. Bronchitis

i. Pneumonia

j. Apnea

k. Hyperventilation

l. Hemoptysis

m. Pneumothorax

n. Dyspnea

o. Cyanosis

p. Thoracentesis

q. Diaphragm

r. Sternum

s. Orthopnea

t. Hyperpnea

/ / / / / / / / / / / / / /

If you missed more than two test items, review the sections of the program that you did not understand.

If you did not miss more than two test items, you are finished with this section of the program.

ENDOCRINE SYSTEM

1. Glands are categorized by the way they secrete their juices into the body systems. This portion of the program will be concerned with the terms associated with ductless glands.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

2. A ductless gland is one that has no excretory ducts. It secretes directly into the bloodstream. If a gland secretes directly into the bloodstream and therefore has no excretory ducts, it is known as a ________________ gland.

/ / / / / / / / / / / / / /

ductless

/ / / / / / / / / / / / / /

3. The adrenal glands secrete adrenalin directly into the bloodstream. The adrenal glands are ________________ glands.

/ / / / / / / / / / / / / /

ductless

/ / / / / / / / / / / / / /

4. A ductless gland is one that has _____ ________________ ducts and therefore secretes its juices directly into the blood stream.

/ / / / / / / / / / / / / /

no excretory

/ / / / / / / / / / / / / /

5. The secretions from a ductless gland are hormones. Insulin is secreted from a ductless gland directly into the bloodstream. Insulin is a ________________.

/ / / / / / / / / / / / / /

hormone

/ / / / / / / / / / / / / /

6. Hormones when secreted into the bloodstream stimulate the functional activity of a part of the body. When hormones are secreted into the bloodstream their function is to

____

____________________________________.

/ / / / / / / / / / / / / /

stimulate the functional activity of a part of the body

/ / / / / / / / / / / / / /

7. The pancreas is an example of a gland that has both duct and ductless portions. The duct portion of the pancreas opens into the intestines to allow pancreatic juices to empty and function as part of the digestive process. There is a second portion of the pancreas that is ductless and a part of the endocrine system. This ductless portion will be of main concern during the discussion of the endocrine glands.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

8. The Islets of Langerhans are the ductless glands located in the pancreas. The part of the pancreas that is associated with the ductless glands of the Endocrine system is the ______________ ________ ___________________.

/ / / / / / / / / / / / / /

Islets of Langerhans

/ / / / / / / / / / / / / /

9. The Islets of Langerhans secrete the hormone insulin. The hormone that is secreted by the Islets of Langerhans is __________________.

/ / / / / / / / / / / / / /

insulin

/ / / / / / / / / / / / / /

10. Insulin is essential to the body in the metabolism of carbohydrates and fats. Which hormone helps the body in metabolizing carbohydrates and fats? ___________________.

/ / / / / / / / / / / / / /

insulin

/ / / / / / / / / / / / / /

11. A definition of insulin may be worded as a hormone secreted by the Islets of Langerhans that is essential for metabolism of carbohydrates and fats.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

16i

12. Define insulin: ____
____.

///////////////

a hormone secreted by the Islets of Langerhans that is essential for metabolism of carbohydrates and fats.

///////////////

13. Acetone is a substance found in the blood and urine when the body is breaking down stored fats. You note that the laboratory report on a patient's urine specimen shows the presence of acetone. You would know that the patient's body is breaking down __________ _______.

///////////////

stored - fats

///////////////

14. One of the tests we do on a diabetic patient's urine is done to determine if he is breaking down stored fats. For what substance would we be checking the patient's urine? __________

///////////////

acetone

///////////////

15. When we want to indicate the presence of simple sugar, we use the prefix GLYCO. The presence of simple sugar in the urine would be indicated by the term __________ suria.

///////////////

Glyco

///////////////

16. One of the possible abnormalities of the endocrine system is a gland functioning at a rate less than or below normal. You can indicate this less than or below normal function with the prefix HYPO. To indicate less than or below normal function we use the prefix __________.

///////////////

hypo

///////////////

17. Hypothyroidism is the condition where the thyroid gland is functioning ____________ normal standard.

/ / / / / / / / / / / / / /

below or less than

/ / / / / / / / / / / / / /

18. The prefix to denote many or much is POLY. Using the prefix prefix poly and the term uria construct a word that means excessive (much) urine. ____________________

/ / / / / / / / / / / / / /

polyuria

/ / / / / / / / / / / / / /

19. The prefix that means many or much ______________.

/ / / / / / / / / / / / / /

Poly

/ / / / / / / / / / / / / /

QUIZ

20. Fill in the blank to left of each statement with the term the statement most accurately describes.

a. (__________________________) A substance secreted directly into the bloodstream from a ductless gland which stimulates the functional activity of a part of the body.

b. (__________________________) A prefix meaning less than or below.

c. (__________________________) The hormone secreted by the Islets of Langerhans which is essential for metabolism of carbohydrates and fats.

d. (__________________________) A substance found in the blood and urine when the body is breaking down stored fats.

e. (__________________________) Having no excretory duct. Secretes directly into the bloodstream.

f. (__________________________) A prefix used to denote the presence of simple sugar.

g. (__________________________) A prefix used to denote many or much.

/ / / / / / / / / / / / / /

Confirmation

a. Hormone

b. Hypo

c. Insulin

d. Acetone

e. Ductless

f. Glyco

g. Poly

/ / / / / / / / / / / / / /

ORTHOPEDIC TERMS

1. The prefix ad means toward. To indicate something is moving toward the body one uses the prefix _________.

/ / / / / / / / / / / / / /

ad

/ / / / / / / / / / / / / /

2. Duction means movement. Using the prefix for toward and the term for movement construct a term that means movement toward the midline of the body ______________.

/ / / / / / / / / / / / / /

adduction

/ / / / / / / / / / / / / /

3. The prefix ab means away from. To indicate that something is moving away from, one uses the prefix _________.

/ / / / / / / / / / / / / /

ab

/ / / / / / / / / / / / / /

4. Using the prefix for away from and the term for movement construct a term that means movement away from the midline of the body __________________.

/ / / / / / / / / / / / / /

abduction

/ / / / / / / / / / / / / /

5. The Deltoid muscle moves the arm away from the midline of the body. The Deltoid muscle ______________ the arm.

/ / / / / / / / / / / / / /

abducts

/ / / / / / / / / / / / / /

6. The Pectoralis Major muscles move the arm toward the midline of the Pectoralis Major muscle ______________ the arm.

/ / / / / / / / / / / / / /

adducts

/ / / / / / / / / / / / / /

7. The term flexion comes from the latin term flexus which means bent.

/ / / / / / / / / / / / / /

no response required

/ / / / / / / / / / / / / /

8. Flexion (Flek-shum) is the act of decreasing the angle between two lines. Decreasing the angle between two lines is called ______________.

/ / / / / / / / / / / / / /

flexion

/ / / / / / / / / / / / / /

9. When the Bicep muscles contract, they decrease the angle between the lines of the upper and lower arm. We therefore say that the bicep muscles ______________ the lower arm.

/ / / / / / / / / / / / / /

flex

/ / / / / / / / / / / / / /

10. Extension is the opposite of Flexion. The increase or straightening of the angle between two bones is called ______________.

/ / / / / / / / / / / / / /

extension

/ / / / / / / / / / / / / /

QUIZ

14. Fill in the blanks with the term that is best described by the statement to the right of each blank.

a. (________________________) movement away from the midline of the body.

b. (________________________) decrease of the angle between two bones.

c. (____________________) increase or straightening of the angle between two lines.

d. (____________________) movement toward the midline of the body.

/ / / / / / / / / / / / / /

Confirmation

a. abduction

b. flexion

c. extension

d. adduction

/ / / / / / / / / / / / / /

15. A sprain is the injury to a ligament that results from the overstretching of that ligament. If one overstretches a ligament the resulting injury is called a __________.

/ / / / / / / / / / / / / /

sprain

/ / / / / / / / / / / / / /

16. Dr. Jones informs you that Amn Wagner has overstretched a ligament in his leg. The injury Amn Wagner has sustained is known medically as a __________________.

/ / / / / / / / / / / / / /

sprain

/ / / / / / / / / / / / / /

17. A strain is the injury that results from overstretching of a tendon or muscle. The injury resulting from the overstretching of a muscle or tendon is a ______________.

/ / / / / / / / / / / / / /

strain

/ / / / / / / / / / / / / /

18. Amn Jones, while lifting a heavy object, overstretches the muscles in his back. The injury may be generally referred to as a back ______________.

/ / / / / / / / / / / / / /

strain

/ / / / / / / / / / / / / /

19. A strain is the ____
___________________________________.

/ / / / / / / / / / / / / /

injury resulting from the overstretching of a muscle or tendon

/ / / / / / / / / / / / / /

20. Sprains are injuries that affect ______________________________.

/ / / / / / / / / / / / / /

ligaments

/ / / / / / / / / / / / / /

21. Strains are injuries that affect ______________ or ______________.

/ / / / / / / / / / / / / /

muscles - tendons

/ / / / / / / / / / / / / /

22. Any break in the normal continuity of a bone is called a fracture. Any break in the normal continuity of a bone is known as a ______________.

/ / / / / / / / / / / / / /

fracture

/ / / / / / / / / / / / / /

23. Even though a bone has only a hair line crack we would still say that this bone was ______________.

/ / / / / / / / / / / / / /

fractured

/ / / / / / / / / / / / / /

24. A fracture is ____.

/ / / / / / / / / / / / / /

any break in the normal continuity of a bone

/ / / / / / / / / / / / / /

25. The term pathological means disease caused. If we wanted to indicate a condition was diseased caused, we would say it was ______________ in nature.

/ / / / / / / / / / / / / /

pathological

/ / / / / / / / / / / / / /

26. Using the term for diseases caused and the term for a break in the normal continuity of a bone, construct a two word medical term that means break in the normal continuity of a bone due to weakening of the bone by disease ______________ ______________/

/ / / / / / / / / / / / / /

pathological fracture

/ / / / / / / / / / / / / /

27. Fracture due to a weakening of the bone by a disease is known as a ______________ ______________.

/ / / / / / / / / / / / / /

pathological fracture

/ / / / / / / / / / / / / /

28. Any abnormal separation of two bones comprising a joint is called a dislocation. The abnormal separation of two bones comprising a joint is the definition of __________.

/ / / / / / / / / / / / / /

dislocation

/ / / / / / / / / / / / / /

29. If the ball of the femur head were pulled out of the hip socket, this would be a classic example of a ____________________.

/ / / / / / / / / / / / / /

dislocation

/ / / / / / / / / / / / / /

30. A dislocation is an ____ ____.

/ / / / / / / / / / / / / /

abnormal separation of two bones comprising a joint

/ / / / / / / / / / / / / /

QUIZ

31. Fill in the blanks with the terms that are best described by the statements to the right of each blank.

a. (________________________) fracture due to weakening of the bone by disease.

b. (________________________) an abnormal separation of two bones comprising a joint.

c. (________________________) any break in the normal continuity of a bone.

d. (________________________) an overstretching of a muscle or tendon.

e. (________________________) an overstretching of ligament.

//////////////

Confirmation

a. Pathological Fracture
d. Strain
b. Dislocation
e. Sprain
c. Fracture

//////////////

32. Muscle tone is the normal degree of vigor or healthy state of muscle. The normal degree of vigor or healthy state of a muscle is ________________ ________________.

//////////////

muscle tone

//////////////

33. Muscle tone is the normal degree of ____________ or ____________ __________ of a muscle.

//////////////

vigor - healthy state

//////////////

34. Muscle tone is the ____ ____________________________________.

//////////////

normal degree of vigor or the healthy state of a muscle

//////////////

35. Immobilization is the act of rendering a body part immovable. The act of rendering a body part immovable is known as ________________.

//////////////

immobilization

//////////////

36. In medicine, immobilization also means putting a body part at rest. Putting a body part at rest is also a purpose of ________________.

//////////////

immobilization

//////////////

37. Immobilization is putting a body part at ____________ or rendering it ________.

/ / / / / / / / / / / / / /

rest - immovable

/ / / / / / / / / / / / / /

38. Immobilization is ____
_______________________________________.

/ / / / / / / / / / / / / /

putting a body part at rest or rendering it immovable

/ / / / / / / / / / / / / /

39. Traction is the exertion of a pull on a body part for a therapeutic effect. The exertion of a pull on a body part for a therapeutic effect is called ________________.

/ / / / / / / / / / / / / /

traction

/ / / / / / / / / / / / / /

40. Traction is the exertion of a ____________ on a ____________ ____________ for a therapeutic effect.

/ / / / / / / / / / / / / /

pull - body part

/ / / / / / / / / / / / / /

41. Traction is the exertion of a pull on a body part for a ______________________
________________.

/ / / / / / / / / / / / / /

therapeutic effect

/ / / / / / / / / / / / / /

42. Define traction ____
______________________________________.

/ / / / / / / / / / / / / /

the exertion of a pull on a body part for a therapeutic effect

/ / / / / / / / / / / / / /

QUIZ

43. Fill in the blank spaces with the term that is best described by the statement at the right of the blank.

a. (______________________________) to render immovable or put at rest.

b. (______________________________) an exertion of a pull on a body part for therapeutic effect.

//////////////

a. Immobilization b. Traction

//////////////

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STUDY GUIDE AND WORKBOOK

3ABR90230-I-6

Technical Training

10-10
Block I

Medical Service Specialist

ANATOMY AND PHYSIOLOGY

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

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Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-I-6
November 1975

ANATOMY AND PHYSIOLOGY

OBJECTIVES

a. Select basic facts and terms related to the anatomy and physiology of the human body.

b. Select basic facts and terms related to the major systems of the human body.

INTRODUCTION

This study guide and workbook and the handout of anatomical drawings are designed to be used in class in conjunction with the instructor's lecture. Please follow the instructions carefully.

INFORMATION

Before one studies the structure (anatomy) and function (physiology) of the human body, it is necessary to know the meanings of certain words used in describing body parts and activities. Just as it is essential to know the vocabulary when studying a foreign language, so too the student studying a science must know the vocabulary pertaining to that science.

TERMINOLOGY

Exercise

Fill in the following blanks, these terms will be presented to you by your instructor.

Body Surfaces and Directional Terms

1. ______________ or ______________ - this is the front of the body or the face side.

2. ______________ or ______________ - refers to the back or the side containing the backbone.

3. The term used to describe a position near the origin or any part is ______________.

4. ______________ - used to describe a position distant, or farthest away.

5. The terms ______________ or ______________ refers to the top or head of the body.

6. ______________ or ______________ refers to the foot or lower portion of the body.

7. The terms ______________ and ______________ are opposite terms meaning toward the center and away from the center, respectively.

8. ______________ and ______________ are terms meaning toward the midline or middle, and away from the midline or more toward the periphery, respectively.

Anatomical Position
Ventral or Anterior
Dorsal or Posterior
Proximal
Distal
Cranial or Superior
Caudal or Inferior
Centeral and Peripheral
Medial and Lateral
Visceral
Parietal

This supersedes SW 3ABR90230-I-6, May 1975.

9. ____________________ - applies to the organs within the body cavities.

10. The term ____________________ describes the walls enclosing the body cavity or surrounding the organs.

Planes or Sections

1. ____________________ and ________________ are terms reserved almost entirely for describing the walls of cavities or of hollow viscera.

2. The ______________________ ______________________ is the dorsoventral plane dividing the body into right and left sides.

3. The ______________________ ______________________ divides the body into right and left halves.

4. The ______________________ ______________________ divides the body into ventral and versal parts.

5. The ______________________ ______________________ divides the body into cranial and condal parts.

Internal and External

Sagittal Plane

Midsagittal Plane

Frontal Plane

Transverse Plane

Body Cavities

The cavities, or spaces, of the body containing the internal organs or ________________. The two main cavities are called the ____________________ and __________________. The ______________________ is divided by the diaphragm into the thoracic and adominopelvic cavities. The __________________ has two cavities; the cranium which contains the brain and vertebral (spinal) column which contains the spinal cord.

Viscera

Ventral

Dorsal

Structural Units

Cells are the building blocks of tissues and of organs within the body. They are the structural and functional unit of any living organism. The human body is composed of countless millions of these tiny units. Each cell and its contents are enclosed by a thin envelope called the cell membrane. Cytoplasm makes up all of the cell except the nucleus. The cytoplasm contains many different structures. The Nucleus is contained within the cytoplasm and is the control center of the cell. The nucleus controls growth, repair, and reproduction.

Exercise

Answer each question in column A by filling in the blanks with the correct response from column B.

Column A

1. The nucleus controls ____________________, ____________________ and ______________ of the cell.

2. ______________ makes up all of the cell except the ____________________.

3. The ________________ are the ______________ and ____________________ unit of all living organisms.

4. The ____________________ is contained within the cytoplasm and is the ______________ ______________ of the ________________.

Column B

Cell
Control Center
Functional
Nucleus
Cell Membrane
Growth
Structural
Repair
Cytoplasm
Reproduction

Exercise

Tissues are groups of like cells having a common function. There are four basic kinds.

1. Epithelial
   a.
   b.
   c.
2. Connective
   a.
   b.
3. Muscle
4. Nerve

Exercise

Answer the following questions using your notes taken above.

1. Name the types of tissue that covers surfaces, lines body cavities and forms secreting cells of glands.

____

2. Groups of like cells having a common function are called __________________________.

3. The tissue that supports, connects, and has many different types is called __________.

Exercise

Membranes are sheets of epithelial and connective tissues.

Types

1.

a. Functions

(1)

(2)

(3)

(4)

b. Anatomy

(1)

(2)

(3)

(4)

2. Mucous Membranes

3. Serous Membrane

4. Fascia - types

5. Fibrous - types

Organs

Systems

Exercise

Answer the following questions using your notes taken above. Fill in the blanks with the correct response in column B.

Column A

1. The functions of the skin are ____________________,
____________________, ________________ and ________________.

2. The outer most layer of skin is called the ______________.

3. The secretory duct which produces ____________________ that aids in heat regulation and the excretion of waste is called a
__________ __________ ________________________.

4. The gland that produces oil which lubricates the skin is
called the ________________ ________________________.

5. The ________________________ membranes line passageways opening to the exterior.

Column B

System

Mucous

Heat regulation
Protection
Elimination
Environmental Information

Epidermis

Organ

Sweat gland

Sebaceous gland

Sweat

6. When two or more tissues combine their functions, they form a structure in the body called an ________________.

7. A ________________________ is a group of organs that are specialized to perform a major body function.

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ____________________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

Exercise

Select basic facts and terms related to the major systems of the human body.

THE SKELETAL SYSTEM

1. Composition of Bone
   a.
   b. Function
   c. Types of bone
   d. Bone markings

Facets

Tubercle, tuberosity

Spine, ridges or crests

Foramen, canal

Pit, groove, or fassa

Condyles or epicondyles

Bones and Their Location

Refer to Handout 3ABR90230-I-6a, Anatomical Drawings.

There are 206 bones of the complete adult skeleton, these bones will be divided into divisions for ease of learning.

The Skull

The skull can be divided into the cranium (eight bones) and the face (15 bones), plus the ear ossicles (six little bones). The cranium forms the bony box that encloses the brain. It is composed of four single bones (frontal, occipital, sphenoid, ethmoid) and two sets of paired bones (parietal, temporal). The bones of the face complete the skull. Of the 15 bones, three are single and six are paired. The three single bones are the mandible (lower jaw), vomer (part of nasal septum) and the hyoid. The hyoid is not a true face bone, it is U-shaped and located in the neck under the mandible. The six paired bones are the maxilla (forms upper jaw), zygomatic or cheek bone, lacrimal (small bones located in orbit of each eye), nasal bones that form the bridge of the nose, inferior nasal concha which is a scroll-shaped bone located on the lateral wall of the nasal cavity and the palatine bones which form the posterior portion of the hard palate, part of the orbits and part of the nasal cavities.

There are three tiny bones in the middle portion of each ear. These are called the ear ossicles (little bones) and are named the malleus (hammer), incus (anvil), and stapes (stirrup).

Exercise

Answer the following series of questions. If you need to, you may look back over the preceding paragraph. Place a checkmark (✓) beside each correct response.

_____ 1. The mandible is two bones that make up the upper jaw.

_____ 2. Two divisions of the skull are the cranium and face.

_____ 3. The bones in the ear are called the ossicles.

_____ 4. The face contains 19 bones.

_____ 5. There are 206 bones of the adult skeleton.

_____ 6. The hyoid is U-shaped and located in the neck under the mandible.

///

Answers: _____ 2. _____ 3. _____ 5. _____ 6.

///

The Vertebral Column (26 bones)

The vertebrae are bones that are superimposed on one another in a series which provide a flexible supporting column for the trunk and head. Each vertebrae is separated by intervertebral discs, which act as shock absorbers. The function of the vertebral column is, a supporting column for the trunk and head and these bones surround and protect the spinal cord.

There are seven cervical vertebrae. They are the smallest in the series and are located in the neck. They are numbered C-1 through C-7.

The thoracic vertebrae are 12 in number and are located in the chest and form an attachment for the ribs. They are numbered T-1 through T-12.

There are five lumbar vertebrae. These are the largest vertebrae and are located in the lower back. They support the weight of the body, numbered L-1 through L-5.

The sacrum consists of five fused sacral vertebrae (one bone) and is the location where the pelvic bones attach.

The coccyx is commonly called the tail bone. It usually is a single bone formed by the fusion of five separate bones.

Sternum and Ribs

The ribs are curved, narrow strips of bone. There are 12 pairs, each pair being attached posteriorly to a thoracic vertebra. The first seven pair are called true ribs and attach directly to the sternum. The next three pairs of ribs (8, 9, and 10) are called false ribs because they attach to the sternum by way of cartilage. The next two pair (11 and 12) are called floating ribs because they are free of their anterior attachments.

The sternum or breast bone is dagger-shaped with three parts. The upper broad portion is called the manubrium, the longer, narrow middle portion is called the body and the smallest most distal portion is the xiphoid process.

Exercise

Answer the following series of questions. If you need to, you may look back over the preceding paragraphs. Place a checkmark (✓) beside each correct response. Verify your answers following the exercise.

_____ 1. Ribs free of their anterior attachments are called floating ribs.

_____ 2. The sternum is divided into two parts.

_____ 3. The distal end of the sternum is called the xiphoid process.

_____ 4. There are 12 pairs of ribs each attaching posteriorly to the thoracic vertebra.

_____ 5. The vertebral column is one continuous bone.

_____ 6. There are five thoracic vertebrae numbered T-1 through T-5.

_____ 7. The sacrum is the location where the pelvic bones attach.

_____ 8. The vertebral column supports the trunk and the head.

_____ 9. A function of the vertebral column is to protect the spinal cord.

//

Answers: _____ 1. _____ 3. _____ 4. _____ 7. _____ 8. _____ 9.

//

Upper Extremities (64 bones)

The bones of each upper extremity consist of the clavicle (collar bone), scapula (shoulder blade), humerus (upper arm bone), the radius and ulna (forearm bones), eight carpal bones (wrist), five metacarpals (the hand), and 14 phalanges (finger bones).

The clavicle props the shoulder out from the chest so that the arm can move freely. It attaches to the sternum and the scapula.

The scapula lies against the posterior aspect of the rib cage, overlying ribs 2 to 7. It is a flat, triangular-shaped bone, and forms the point of the shoulder.

The humerus consists of a shaft and two ends. The superior end articulates with the scapula to form the shoulder joint. The inferior end articulates with the two forearm bones.

1 80

The radius is on the thumb side of the forearm and the ulna is located on the medial or little finger side.

The carpals are the eight small bones located in the wrist. The five metacarpal bones form the skeleton of the hand, they are numbered 1 through 5.

There are 14 phalanges or digits, three in each of the four fingers and two in the thumb. Each proximal phalanx articulates with the corresponding metacarpal bone of the hand.

Exercise

Without the aid of the text, match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided.

Column A

_____ 1. Lies against the posterior aspect of the rib cage.

_____ 2. The bone located on the little finger side of the forearm.

_____ 3. The superior end of this bone articulates with the scapula to form the shoulder.

_____ 4. These small bones are located in the wrist.

_____ 5. This bone attaches to the sternum and the scapula.

_____ 6. These bones make up the fingers and are called digits.

Column B

a. Carples

b. Clavicle

c. Humerus

d. Scapula

e. Phalanges

f. Ulna

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ____________________________.

Bones of the Lower Extremities (62 bones)

The innominate bone is commonly called the hip bone, or the pelvic bone. It is made up of three bones, the ilium which is the largest, the ischium which is the weight bearing bone used in sitting and the pubis, which is the bone located in front.

The femur is the longest and strongest bone in the body. The superior end articulates with the hip and the inferior end articulates with the two bones in the leg. The femur is commonly called the thigh. The patella, located where the femur and leg bones meet, is commonly called the kneecap.

The tibia, larger of the two leg bones, is on the medial side of the leg, it is commonly called the shinbone. It forms the lower leg. The fibula is located on the calf side of the lower leg and provides additional support for the lower leg.

The tarsals are the eight bones that form the ankle. The metatarsals are the bones that form the foot, they are five in number. The phalanges are the 14 bones that form the toes.

Articulations (Joints)

An articulation or joint refers to the relationship between two bones at their points of contact. The types of joints derive their names from the movements they perform or their structure.

Exercise

Fill in the blanks with the word listed at the right. They are listed in order.

Types of Joint Movement

1. ______________________ is the decreasing of an angle between two bones.

2. ______________________ is increasing the angle between two bones.

3. ______________________ is moving away from the midline.

4. ______________________ describes circle.

5. ______________________ is turning on an axis without displacement.

6. ______________________ is turning palm of hand up.

7. ______________________ is turning palm of hand down.

Flexion
Extension
Abduction
Circumduction
Rotation
Supination
Pronation

Exercise

Without the aid of the text, match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided.

Column A

_____ 1. The longest and strongest bone in the body.
_____ 2. The larger of the two leg bones.
_____ 3. Increasing the angle between two bones.
_____ 4. The eight bones that form the ankle.
_____ 5. This bone is commonly called the hip bone or pelvic bone.
_____ 6. This bone is the weight bone used in sitting.
_____ 7. The decreasing of an angle between two bones.

Column B

a. Tibia
b. Innominate
c. Flexion
d. Ischium
e. Femur
f. Tarsals
g. Extension

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ______________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

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THE MUSCULAR SYSTEM

The muscular system is responsible for all movement in the body.

1. Types of muscles

2. Characteristics of muscles

3. Specific muscles, location, part(s) moved and principal action(s). Refer to Handout 3ABR90230-I-6a, Anatomical Drawings.

Twelve Representative Skeletal Muscles

	Name	Location	Part(s) Moved	Principal Action
1.	Trapezius	Back & Neck	Shoulder	Squaring shoulders by adducting scapulae
2.	Latissimus dorsi	Back	Upper Arm	Extends humerus, draws arm down and back and rotates medially
3.	Deltoid	Caps shoulder point	Upper Arm	Main abductor of humerus
4.	Pectoralis major	Chest	Upper Arm	Adducts and flexes humerus
5.	Biceps	Upper arm	Forearm	Flexion and supination of forearm
6.	Triceps	Upper arm	Forearm	Extension of forearm
7.	Gluteus maximus	Buttock	Thigh	Extension of thigh
8.	Sartorius	Thigh	Thigh & Leg	Flexion, abduction, & rotation of thigh. Flexion of knee.
9.	Quadriceps	Thigh (Anterior)	Thigh & Leg	Extension of knee and flexion of thigh
10.	Hamstrings	Thigh (Posterior)	Thigh & Leg	Flexion of knee and extension of thigh
11.	Tibialis anterior	Leg	Foot	Dorsiflexion of foot
12.	Gastrocnemius	Leg	Foot	Plantarflexion of foot, raises heel in walking.

Exercise

Answer the following questions without the aid of your text. Match the muscles listed below with the correct response(s) under each. There may be more than one correct answer. Circle correct letters.

1. Quadriceps

   a. Location - thigh

   b. Moves foot and calf

   c. Principle action is extension of knee and flexion of thigh

2. Latissimus dorsi
    a. Location - buttock
    b. Location - back
    c. Moves shoulder
    d. Moves thigh
3. Hamstrings
    a. Location - thigh (posterior)
    b. Moves thigh and leg
    c. Principle action flexion of knee
    d. Also responsible for extension of thigh
4. Gastrocnemius
    a. Located in the arm and moves forearm
    b. Principal action is plantarflexion of foot
    c. Responsible also for dorsiflexion of foot
    d. The part moved is the thigh
5. Trapezius
    a. Location - back and neck
    b. Moves shoulder
    c. Responsible for squaring shoulders by adducting scapulae
6. Triceps
    a. Located in the forearm
    b. Moves the forearm
    c. Responsible for extension of forearm
    d. Also responsible for flexion and supination of forearm

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ____________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

THE NERVOUS SYSTEM

Refer to HO 3ABR90230-I-6a, Anatomical Drawings.

General Functions

The nervous system is the body's communication system, that is, it receives information from stimuli outside the body and from stimuli inside the body and sends messages to various organs, governing their functions. It is often said to be a stimulus-response mechanism that coordinates and regulates all body functions. It makes adjustments to internal and external changes, i.e. when it's hot outside you perspire to cool your body.

This reception of information and the ensuing responses may be voluntary, involuntary or a combination of the two. The nervous system is comprised of the brain, spinal cord, and all the nerves of the body.

Neurons

1. Structure

2. Function

Divisions of the Nervous System

The nervous system is divided into two main systems, the central nervous system and the peripheral nervous system (PNS). The central nervous system (CNS) has two parts, the brain and the spinal cord. The brain receives and interprets impulses from stimuli, and sends out responses for action. The divisions of the brain are: the cerebrum, cerebellum, and the medulla oblongata. The largest part of the brain is the cerebrum; it is located superiorly to the other parts of the brain. It governs memory, thinking, reasoning, emotions, intelligence, interpretations of sensations, and control of senses. The cerebellum is the next largest part of the brain. It lies inferior and posterior to the cerebrum. The third part is the medulla oblongata, it lies inferior to the cerebrum and continues to the spinal cord. The vital centers are located here. It controls involuntary muscle activities such as the heart and respiration. The second division of the CNS is the spinal cord. It is located inside the vertebral column, and extends from the medulla to the lower region of the back. It acts as a relay station carrying impulses from the body to the brain and from the brain back to the body. It is the reflex center, causing muscle reactions to danger before the message is received by the brain.

The second division of the nervous system is the peripheral nervous system (PNS). It, like the CNS, is divided into two main divisions, the cranio-spinal division and the autonomic division. The cranio-spinal division controls senses and voluntary muscle activities. The autonomic division regulates all involuntary activities. The autonomic division is sub-divided into two divisions, the sympathetic and parasympathetic. The sympathetic portion of the autonomic division causes acceleration of heart beat and a rise in blood pressure, i.e. the body when you exercise. The parasympathetic acts to slow the heart beat and lower blood pressure, i.e. after exercise, when resting. By acting in opposition the two functions tend to keep the body in delicate balance.

Exercise

Answer the following questions about the divisions of the nervous system. Place a checkmark (✓) beside each true statement.

1. The central nervous system

_____ a. is made up of the brain and all the nerves in the body.

_____ b. contains the brain which is divided into three parts, the cerebrum, cerebellum, and the medulla.

_____ c. contains the vital centers which are located in the cerebrum.

_____ d. contains the spinal cord which acts as a relay station.

//

Answers: _____ b. _____ d.

//

2. The peripheral nervous system. Check the true statements about the PNS.

_____ a. The two divisions of the PNS are the cranio-spinal division and the autonomic division.

_____ b. The sympathetic and the parasympathetic are parts of the cranio-spinal division.

_____ c. The cranio-spinal division controls involuntary muscle activity.

_____ d. The sympathetic and parasympathetic systems act in opposition to each other.

//

Answers: _____ a. _____ d.

//

Other parts of the nervous system are the cranium, meninges, meningeal spaces and cerebrospinal fluid. The cranium is the bony structure which surrounds the brain. Its function is to support and protect the brain. The meninges are located directly under the cranium. The meninges are three separate membranes which surround the brain and spinal cord. Each membrane is separated by a meningeal space. The meninges and meningeal spaces together also protect the brain and spinal cord. Located within the inner meningeal space is cerebrospinal fluid, which is clear and colorless. Cebrospinal fluid circulates over the entire surface of the brain and the spinal cord providing nourishment and acting as a shock absorber.

Exercise

Without the aid of the text, match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided. Do not refer to your text.

Column A

____ 1. A stimulus response mechanism

____ 2. Composed of brain and spinal cord

____ 3. This neuron conducts impulses toward the CNS

____ 4. Its parts are the cerebrum, cerebellum, and medulla oblongata

____ 5. Its structure consist of a cell body, axon, and dendrite

____ 6. The vital centers are located here

____ 7. Acts as a reflex center

____ 8. This division of the nervous system is divided into two parts, the craniospinal and autonomic divisions

____ 9. Its function is to support and protect the brain

____ 10. Three membranes which surround the brain and spinal cord

____ 11. Clear, colorless fluid located within the inner meningeal space

____ 12. This neuron conducts impulses away from the CNS

____ 13. Governs memory, thinking, reasoning, emotions, and intelligence

Column B

a. Peripheral nervous system

b. Spinal cord

c. Medulla oblongata

d. Neuron

e. Axon

f. Autonomic division

g. Cerebellum

h. Dendrite

i. Nervous system

j. Cerebrum

k. Central nervous system

l. Cerebrospinal fluid

m. Cranium

n. Brain

o. Meninges

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ____________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

The Eye

Refer to Handout 3ABR90230-I-6a, Anatomical Drawings.

The eye is really an extension of the brain, and as such it can be considered as part of the central nervous system. For protection, the eyeballs are located in the bony orbits of the skull and are surrounded by fat and connective tissue. Only one-sixth of the eye is open to the external environment, the rest being recessed in the orbit.

Added protection is given by the eyelids positioned over the exposed surface of the eyes. The edges of the lids are lined with lashes and contain small glands which secrete an oily substance. Lacrimal glands, located above the upper outer corner of each eyeball, constantly secrete tears. The tears spread over the exposed surface of the eye, washing out foreign particles and keeping the surface moist.

Exercise

Place a checkmark (✓) beside each true statement about the eye.

1. The eye is protected by

_____ a. the orbits which secrete an oily substance.

_____ b. the lids which are lined with lashes.

_____ c. tears that spread over the exposed surface of the eye.

_____ d. small glands located in the corner of each eyeball.

_____ e. fat and connective tissue.

_____ f. lacrimal glands which secrete tears.

//

Answers: _____ b. _____ c. _____ e. _____ f.

//

TISSUE LAYERS AND FUNCTIONS OF THE EYE. The sclera is composed of a tough, white fibrous connective tissue, its function is protection. The cornea is the anterior portion of the sclera, it is transparent so that light rays can enter the eye.

The choroid is the middle layer and contains dark brown pigment and has many blood vessels in it. The lens is located in the anterior portion of the eye and is attached to the choroid by means of ligaments. Its function is to focus light on the retina. The iris is the colored part of the eye, and attaches to the choroid by fibers. It regulates the amount of light entering the eye, through the opening called the pupil.

The retina is the nervous inner lining of the eye. It contains two types of specialized cells that are sensitive to light. These cells are called rods and cones. Cones are responsible for daylight vision and rods are for night vision. These specialized cells connect with the optic nerve.

Three other areas we should be familiar with concerning the eye is the optic nerve which transmits images to the brain, the lacrimal ducts which is the passageway for tears, and the ocular muscles which control movement of the eyeball.

Exercise

2. Place a checkmark (✓) beside each true statement about the layers of the eye and their functions.

____ a. The retina is the nervous inner lining of the eye.

____ b. The optic nerve controls movement of the eye.

____ c. The cornea is the anterior portion of the sclera.

____ d. The iris is the opening in the eye.

____ e. The pupil is the colored portion of the eye.

____ f. Rods and cones are located in the retina of the eye.

____ g. Cones are responsible for daylight vision.

____ h. The iris regulates the amount of light entering the eye.

///

Answers: ____ a. ____ c. ____ f. ____ g. ____ h.

///

The Ear

Refer to Handout 3ABR90230-I-6a, Anatomical Drawings.

GENERAL FEATURES. The ear is another structure which can be considered a part of the central nervous system. It performs two main functions, hearing and equilibrium. The ear consists of three parts: the external ear, the middle ear, and the internal ear.

THE EXTERNAL EAR. The auricle or pinna is the expanded outer part of the ear which projects from the side of the head. It has a cartilage framework covered with skin. Its function is to collect and direct sound waves into the ear.

The auditory canal is a canal one inch long that opens from the outside to the tympanic membrane. It has a double curve, so that when one wishes to view the tympanic membrane, the auricle must be pulled up and back to straighten it. The auditory canal is lined with skin which has fine hairs, oil (sebaceous) glands, and wax (ceruminous) glands.

THE MIDDLE EAR. The middle ear contains the tympanic membrane, ossicles and the eustachian tube. The tympanic membrane is responsible for converting sound waves into vibrations. The ossicles are small bones which magnify the force of the vibrations and carry them to the inner ear. The eustachian tube is the passageway that connects the middle ear to the nasopharynx (throat). When opened by swallowing, this tube helps to equalize the air pressure in the cavity with that outside the body.

THE INNER EAR. The sound vibrations from the ossicles are received by the cochlea, it in turn turns the vibrations into nerve impulses. The Acoustic nerve transmits these impulses to the brain.

The semicircular canal in the inner ear maintains the sense of balance against gravity. The vestibular nerve is responsible for equilibrium sensation.

Exercise

Without the aid of the text, match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided.

Column A	Column B
_____ 1. Responsible for converting sound waves into vibrations	a. Pinna
_____ 2. Part of the ear which projects from the head	b. Acoustic nerve
_____ 3. Small bones located in the middle ear	c. Cochlea
_____ 4. Transmits impulses to the brain	d. Tympanic membrane
_____ 5. Turns vibrations into nerve impulses	e. Ossicles
	f. Auditory canal
	g. Semicircular canal

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED _______________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

THE CIRCULATORY SYSTEM

Refer to Handout 3ABR90230-I-6a, Anatomical Drawings.

The circulatory system is the transportation system of the body. It carries food and oxygen to the body cells and waste products away from them. It carries hormones, which help regulate body processes, and antibodies, which protect against infections. It aids in the control of body temperature and maintenance of homeostasis.

Blood

Blood is composed of formed elements (cells) and liquid intercellular material, the plasma. The average amount of blood in a normal adult is four to five quarts.

There are three types of formed elements (cells) in the blood. First erythrocytes or commonly called red cells. The primary function of the red blood cells is to carry oxygen to the body tissues and carry carbon dioxide away. The average erythrocyte count is 4.5 million to 5 million per cubic millimeter of blood. The second type is leukocytes or commonly called white cells. The white blood cells act as scavengers and combat infection within the body. They have the ability to penetrate the tissues and return to the blood stream. The average WBC count is 5 to 10 thousand per cubic millimeter of blood. The third type is platelets. Platelets are important to clotting of the blood. They are 1/4 to 1/2 the size of RBCs. The average platelet count is 25,000 per cubic millimeter of blood.

Plasma is the liquid part of the blood making up 50 to 60 percent of the blood volume. It consists of water in which numerous chemical compounds are dissolved. Plasma is the medium for the circulation of the blood cells for the nourishment needed by the body.

Exercise

Answer the following questions about the circulatory system. Place a checkmark (✓) beside each true statement.

1. The circulatory system

_____ a. carries hormones, which help regulate body processes.

_____ b. is the transportation system of the body.

_____ c. aids in the control of body temperature.

_____ d. carries food and oxygen to the cells of the body.

//

Answers: _____ a. _____ b. _____ c. _____ d.

//

2. The formed elements (cells) in the blood are

_____ a. platelets, which are responsible for carrying oxygen.

_____ b. leukocytes, commonly called white cells.

_____ c. erythrocytes, with an average count in the blood of 4.5 to 5 million.

_____ d. platelets, which are responsible for clotting the blood.

_____ e. erythrocytes, which are commonly called red blood cells.

//

Answers: _____ b. _____ c. _____ d. _____ e.

//

3. Plasma is the liquid part of the blood

_____ a. consisting of water in which numerous chemical compounds are dissolved.

_____ b. making up 50 to 60 percent of the blood volume.

_____ c. which carry oxygen and carbon dioxide.

//

Answers: _____ a. _____ b.

//

NOTE: GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

The Heart

1. Location

a.

b.

2. Structure

a.

b.

3. Tissue Layers

There are four tissue layers of the heart. The first is the pericardium. It is the thin tissue that surrounds the heart forming a sac. The sac contains a fluid that minimizes the heart's friction and allows the heart to move freely with each contraction. The epicardium is the outermost tissue layer that provides support and protection to the inner layers of tissue. The myocardium is the muscular layer of the heart that contracts rhythmically to pump blood throughout the body. The endocardium is the smooth lining of the heart that makes up the heart valves. The smoothness of the tissue surface lessens friction and helps prevent injury of the blood cells.

4. Valves of the Heart

There are four valves located within the heart. The first is the tricuspid valve. It is located between the right atrium and the right ventricle. It prevents the back flow of blood into the right atrium when the right ventricle contracts. The pulmonary semi-lunar valve is located between the right ventricle and the pulmonary artery. It prevents the back flow of blood from the pulmonary artery during right ventricle relaxation. The bicuspid valve is located between the left atrium and the left ventricle. It prevents the back flow of blood into the left atrium when the left ventricle contracts. The aortic semilunar valve is located between the aorta and the left ventricle. It prevents the back flow of blood from the aorta during left ventricle relaxation.

Exercise

Match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided.

	Column A		Column B
____ 1.	Located between the right ventricle and the pulmonary artery	a.	Myocardium
____ 2.	The smooth inner lining of the heart	b.	Pericardium
____ 3.	Thin tissue that surrounds the heart forming a sac	c.	Pulmonary semi-lunar
____ 4.	Located in chest cavity, two-thirds is left of midline	d.	Endocardium
____ 5.	The chambers that receive blood into the heart	e.	Heart
____ 6.	The muscle layer of the heart	f.	Atrium

//

Answers: c 1. d 2. b 3. e 4. f 5. a 6.

//

NOTE: GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

Blood Vessels

1. Types

   a.

   b.

   c.

2. Main Veins and Arteries of the Body

The vena cava is the large vein that empties the de-oxygenated blood from all parts of the body back into the right atrium. It is divided into superior and inferior portions. The superior vena cava carries the de-oxygenated blood from the upper portions of the body back to the heart. The inferior vena cava carries the de-oxygenated blood from the lower portion of the body back to the heart.

There are four pulmonary veins, two from the right lung and two from the left lung. They carry oxygenated blood back to the left atrium of the heart. These are the only veins that carry oxygenated blood.

The pulmonary artery carries de-oxygenated blood to the lungs from the right ventricle. It is the only artery that carries de-oxygenated blood.

The aorta is the largest artery in the body. It carries oxygenated blood away from the left ventricle. The walls of the aorta are thick and very elastic to allow it to withstand the force exerted by the pumping action of the left ventricle.

The right and left coronary arteries are the first branches of the aorta. These arteries supply the heart tissue with oxygenated blood.

The innominate artery is the first branch off the aortic arch. The innominate artery branches off into the right subclavian artery and the right carotid artery. The right subclavian artery carries oxygenated blood to the right shoulder and arm. The right carotid artery supplies the right side of the neck, face, and head with blood.

The second branch off the aortic arch is the left common carotid artery. It carries the oxygenated blood to the left side of the neck, face, and head.

The third branch off the aortic arch is the left subclavian artery. It carries the oxygenated blood to the left shoulder and arm.

The descending aorta is the portion of the aorta that goes down into the thoracic and abdominal areas. It divides into many smaller arteries that supply the lower body tissues and organs with oxygenated blood.

Exercise

Match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blank provided.

Column A

_____ 1. Connect arteries and veins

_____ 2. Empties de-oxygenated blood into the right atrium

_____ 3. First branch off the aortic arch

_____ 4. Only vein to carry oxygenated blood

_____ 5. Carry blood away from the heart

_____ 6. Carry blood to the heart

_____ 7. Supplies the heart tissue with blood

_____ 8. Goes down into the thoracic and abdominal areas

_____ 9. Carries oxygenated blood to the right shoulder and arm

____ 10. Carries the oxygenated blood to the left side of the neck and head

Column B

a. Coronary

b. Arteries

c. Capillaries

d. Pulmonary

e. Innominate

f. Vena Cava

g. Left Common Carotid

h. Veins

i. Right subclavian

j. Decending Aorta

//

Answers: c 1., f 2., e 3., d 4., b 5., h 6., a 7., j 8., i 9., g 10.

//

NOTE: GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

Physiology of Circulation

Heartbeat

a.

b.

c.

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2. **Blood Pressure**

   a.

   b.

      (1)

      (2)

   c.

3. **Pulse**

   a.

   b.

THE LYMPHATIC SYSTEM

In a sense, the lymphatic system is an assistant to the venous part of the vascular system.

1. Lymph

    a.

    b.

2. Lymphatic Vessels

    a.

    b.

    c.

    d.

3. Lymph Nodes

    a.

b.

c.

d.

4. Spleen

a.

b.

Exercise

Without the aid of the text, match each of the following statements in column A with the correct answer in column B, by placing the correct letter in the blanks provided.

Column A

____ 1. Composed of formed elements and liquid intercellular material, and plasma

____ 2. This carries oxygen to the body cells and carries carbon dioxide away

____ 3. The chamber of the heart responsible for pumping blood out of the heart

____ 4. The outermost tissue layer that provides support and protection to the inner layers

Column B

a. S - A node

b. Pulse

c. Spleen

d. Blood

e. Epicardium

f. Arteries

_____ 5. Prevents the back flow of blood into the right atrium

_____ 6. Carries blood away from the heart

_____ 7. Supplies the heart tissue with blood

_____ 8. Small mass of highly specialized tissue located in the wall of the right atrium

_____ 9. Normal adult heart beat

_____ 10. Force with which blood pushes against vessel walls

_____ 11. Alternate expansion and recoil of elastic arterial wall

_____ 12. Tissue fluid collected into special vessels, comes originally from the blood

_____ 13. Strains bacteria and foreign particles from lymph also makes lymphocytes

_____ 14. Reservoir for blood, destroys worn out RBCs and acts as a filter and makes lymphocytes

g. Erythrocytes

h. Ventricles

i. Lymph nodes

j. 72 to 80

k. Blood pressure

l. Coronary arteries

NOTE: CHECK WITH YOUR INSTRUCTOR WHEN COMPLETED ____________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR.

THE RESPIRATORY SYSTEM

Refer to Handout 3ABR90230-I-6a, Entitled Anatomical Drawings.

General Considerations

1.

2.

3.

4.

Anatomy of the Respiratory System

We first begin with the nose or nasal cavities. The function of the nasal cavities is to warm, filter and moisten the air. The openings to the nose are called the nares. The pharynx is a funnel-shaped passageway connecting the nasal cavities with the larynx. It has three subdivisions, the nasopharynx, oropharynx and the laryngopharynx. The nasopharynx is the opening for the auditory tube. Located in the oropharynx are the tonsils made up of lymphatic tissue and the uvula which is the point of gag reflex. The laryngopharynx is continuous with the esophagus, this is where the airway and food passages are located. The larynx is the organ of sound production. It is commonly called the voicebox. It contains the epiglottis. The epiglottis is a flap-like affair which prevents liquid and food from entering the trachea when swallowing. The trachea is the windpipe and is formed by C-shaped cartilage, It is lined with cilia and mucous glands to filter dust.

The trachea divides in so many branches forming the bronchial tree. The bronchial tree consist of two primary bronchi, right and left, that deliver air to each lung. Five secondary bronchi, three on the right and two on the left. Deliver air to each lobe of the lungs. Next in line are the bronchioles. There are 50 to 80 bronchioles in each lung lobe. Last we have the alveolar sacs. They are the functional units of respiration, this is where the exchange of gasses occur. They are one cell thick and semi-permeable to certain gases. The alveolar sacs are surrounded by millions of capillaries.

The Lungs

The two cone-shaped lungs are the organs of respiration. They normally lie free within the pleural cavities of the thorax except where they are attached to the primary bronchi. The right lung has three lobes and the left has two.

Pleural Membranes

The pleura are paired, closed, double-layered serous sacs which enclose the lungs. The inner visceral layer adheres closely to the lung following all the identations of the lobes. It is separated from the outer parietal layer, which lines the thoracic walls. A small amount of serous fluid between the two prevents them from rubbing together as the lungs move during breathing. The space between the pleura is referred to as a potential space.

Exercise

Place a check (✓) beside each true statement

1. General considerations

_____a. the respiratory system supplies cells with oxygen.

_____b. breathing is controlled by the oxygen level in the blood.

_____c. external respiration is the exchange of O_2 and CO_2 in the alveoli (between alveoli and blood--lung level).

_____d. internal respiration is the exchange of O_2 and CO_2 in the cells of the body (between cells and blood capillaries).

2. Anatomy of the respiratory system

_____a. openings to the nose are called the nares.

_____b. oropharynx contains the epiglottis.

_____c. laryngopharynx contains the tonsils.

_____d. the trachea is lined with cilia and mucous glands to filter dust.

_____e. there are two primary bronchi that deliver air to each lung.

_____f. exchange of gases occur in the alveolar sacs.

_____g. the pleural space is referred to as a potential space.

_____h. parietal pleura is a sac like membrane surrounding both lungs.

Answers

1. ✓ a., ✓ c., and ✓ d.
2. ✓ a., ✓ d., ✓ e., ✓ f., ✓ g.

Physiology of the Respiratory System

1. Mechanics of breathing

    a. Inspiration

(1)

(2)

b. Expiration

(1)

(2)

2. Control of breathing

a.

b.

Exercise

Without the aid of the text, match each of the following statements in Column A with the correct answer in Column B, by placing the correct letter in the blanks provided.

Column A	Column B
_____1. Moves air into and out of the system.	a. Visceral pleura
_____2. Funnel-shaped passageway which connects the nasal cavities with the larynx	b. Epiglottis
_____3. Organ of sound production	c. Alveolar sacs
_____4. Prevents liquid and food from entering the trachea when swallowing	d. Pharynx
	e. Breathing

_____5. Deliver air to each lobe of the lung

_____6. Functional unit of respiration, this is where the exchange of gases occur.

_____7. Membrane that surrounds each lung.

_____8. Diaphragm and intercostal muscles enlarge the thoracic cavity.

_____9. Inspiratory muscles relax, thorax decreases in size and the elastic lungs recoil.

_____10. High concentration of this increases respiration.

f. Secondary bronchi

g. Larynx

h. Carbon dioxide

i. Expiration

j. Inspiration

Check with your instructor when completed__________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR

THE DIGESTIVE SYSTEM

Refer to Handout 3ABR90230-I-6a, Entitled Anatomical Drawings.

Exercise

Just as all living cells need oxygen to survive, so do they need materials for growth, energy, and repair. These nutritive substances must be taken into the body and changed into forms which can be utilized by the cells. The digestive system is composed of organs which fulfill these needs by properly preparing such essential materials, called food, through a series of processes called digestion.

1. Alimentary canal

   a.

   b.

      (1)

      (2)

(3)

c. Functions

(1)

(2)

(3)

(4)

2. Organs of digestion

Located in the oral cavity are the teeth, tongue and salivary glands. The teeth are responsible for grinding the food into small particles to expose more food surface to the actions of the digestive juices. The salivary glands secrete saliva, thus beginning digestion. The tongue contains taste buds, it mixes the food with saliva, and is responsible for starting the swallowing action.

The pharynx, which was discussed in the respiratory system, is the passageway from the oral cavity to the esophagus.

The esophagus connects the stomach and the pharynx. Peristalsis begins in the esphagus.

The stomach is located in the left upper quadrant of the abdominal cavity. It connects the esophagus to the small intestines. The stomach has two sphincter muscles, the cardiac sphincter and the pyloric sphincter. The stomach is responsible for storing and churning food. Food usually remains in the stomach 3 to 4 hours and small quantities of food are passed through the pyloric sphincter at intervals to pass through the digestive system. It also excretes hydrochloric acid and protein digestion begins in the stomach.

The small intestines is a tube 21 feet long. It connects the stomach to the large intestines. Digestion is completed in the small intestines. The divisions of the small intestines are the duodenum, jejunum and ileum. The duodenum connects the stomach to the jejunum. It produces digestive juices and receives bile to emulsify fats. It also receives pancreatic juices from the pancreas. The jejunum is the middle portion, it is the largest section and absorbs nutrients. The ileum is the distal portion which attache to the large intestines. It absorbs a small amount of water.

The large intestines is a tube about 5 feet long. It connects the small intestine to the anus. It is primarily responsible for the absorption of fluids. Its divisions include the cecum, colon, rectum and anus. The cecum is a blind pouch connected to the ileum. It contains the ileocecal valve and the appendix. The appendix is a worm like projection from the cecum with no known function. The colon is the middle portion and has four sections, the ascending colon, the transverse colon, the descending colon and the sigmoid colon. The rectum is at the distal end of the large intestine, it stores feces prior to evacuation. The anus serves as an opening to the outside, and has a sphincter muscle.

Exercise

Place a check (✓) beside each true statement. Only refer back to your text if necessary. GO NO FURTHER IN YOUR TEXT UNTIL TOLD TO DO SO.

1. Alimentary canal

_____a. A continuous tube from the mouth to the anus, approximately 20 feet long.

_____b. It has a mucus membrane lining.

_____c. Has a function called ingestion, the intake of food.

_____d. Is responsible only for the elimination of waste.

2. Organs of digestion

_____a. The tongue and teeth are located in the oral cavity.

_____b. Peristalsis begins in the pharynx.

_____c. The stomach is located in the upper right quadrant of the abdominal cavity.

_____d. The stomach stores and churns food, which remains 3 to 4 hours.

_____e. The duodenum, jejunum and ileum are divisions of the small intestines.

_____f. The large intestines are responsible for the absorption of fluids.

_____g. The rectum stores feces prior to evacuation.

_____h. The appendix is attached to the sigmoid colon.

Answers

1. __✓__b., and __✓__c.

2. __✓__a., __✓__d., __✓__e., __✓__f., and __✓__g.

3. Accessory organs of digestion

    a. Pancreas

        (1)

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(1)

(2)

(3)

b. Liver

(1)

(2)

(3) Function

(a)

(b)

(c)

(d)

(e)

(f)

c. Gallbladder

(1)

(2)

4. Abdominal cavity

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a.

b.

(1)

(2) Functions

(a)

(b)

(c)

5. Metabolism

a.

b.

c.

(1)

(2)

(3)

(4)

Exercise

Without the aid of the text, match each of the following statements in Column A with the correct answer in Column B, by placing the correct letter in the blanks provided.

Column A

_____1. A tube 27 feet long, lined with mucus membrane and has a muscular layer.

_____2. Physical and chemical breaking down of food into simple substances.

_____3. Secretes a substance that begins digestion.

_____4. Peristalsis begins in this portion of the alimentary canal.

_____5. Protein digestion begins here, it also excretes hydrochloric acid.

_____6. A tube 21 feet long that connects the stomach to the large intestines.

_____7. Receives bile and pancreatic juices.

_____8. This tube absorbs fluids and connects the small intestine to the anus.

_____9. The distal end of the canal, it serves as an opening to the outside.

_____10. Located behind the stomach, and secretes insulin directly into the bloodstream.

_____11. Secretes bile and is the largest organ in the body.

_____12. Stores, concentrates and releases bile.

Column B

a. Esophagus
b. Small intestine
c. Anus
d. Alimentary canal
e. Carbohydrates
f. Liver
g. Metabolism
h. Gallbladder
i. Digestion
j. Salivary Glands
k. Proteins
l. Large intestines
m. Stomach
n. Abdominal cavity
o. Duodenum
p. Pancreas
q. Peritoneum

_____13. Contains the stomach, liver, gallbladder, pancreas, spleen and small intestines.

_____14. This is a serous membrane that lubricates abdominal organs and holds them in place.

_____15. The sum of all chemical processes in the body.

_____16. Needed for tissue growth and repair.

_____17. Body's energy source.

Check with your instructor when completed__________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR

THE URINARY SYSTEM

Refer to Handout 3ABR90230-I-6a, Entitled Anatomical Drawings

1. Introduction (function)
    a.
    b.
    c.
2. Renal artery and vein
    a. Location
    b. Function
3. Kidney

a. Location

b. Function

(1)

(2)

(3)

c. Parts

(1)

(a)

(b)

(2)

(a)

(b)

1

2

(3)

(a)

(b)

(4)

(a)

(b)

4. Ureters
    a. Location

    b. Function

5. Bladder
    a. Location

    b. Function

6. Urethra
    a. Male
        (1)

(2)

(3)

b. Female

(1)

(2)

Exercise

Without the aid of the text, match each of the following statements in Column A with the correct answer in Column B, by placing the correct letter in the blanks provided.

Column A

_____1. Carries approximately 1200cc to each kidney each minute.

_____2. Filters blood and excretes waste.

_____3. Protects and insulates the kidney.

_____4. Where selective reabsorption takes place.

_____5. The tubes which extend from the kidney to the bladder.

_____6. Retains 200 - 400cc of urine.

_____7. Transports urine from the bladder to the external opening called the meatus.

Column B

a. Bladder
b. Peri-renal capsule
c. Renal artery
d. Urethra
e. Ureters
f. Kidneys
g. Cortex

Check with your instructor when completed_______________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR

THE ENDOCRINE SYSTEM

1. Introduction

    a.

    b.

    c.

    d.

2. Properties of Hormones

    a.

    b.

    c.

    d.

3. Types of glands, location and their function.

Refer to Handout 3ABR90230-I-6a, Entitled Anatomical Drawings

Pituitary Gland

The pituitary gland is called the master or key gland, it influences all other endocrine glands. It is located at the base of the brain. The hormones it secretes are called trophic hormones. It's functions are to:

a. regulate the functional activity of the other endocrine glands

b. to control lactation

c. constricts blood vessels to increase blood pressure

d. to stimulate contraction of smooth muscles

e. secrete an antidiuretic which reduces the volume of urine excreted by the kidneys.

Thyroid Gland

The thyroid gland is located in the anterior middle portion of the neck. The hormone it secretes is called thyroxin. It's functions are to:

a. regulate basal metabolism (heat production)

b. store iodine

c. to regulate body growth and development

Parathyroid Glands

The parathyroid glands are located near the thyroid gland. The hormone it secretes is called parathormone. It's functions are to:

a. regulate calcium and phosphorous metabolism

b. the malfunction of this gland causes disorders of the bones, muscles, nerves and the skin.

Adrenal Glands

These glands are located on the superior portion of each kidney. The hormone they secrete is called adrenalin (epinephrine). NOTE: Remember this hormone by both names. It's functions are to:

a. increase heart rate, blood pressure and respirations

b. it also constricts peripheral blood vessels

Islets of Langerhans

The islets of langerhans are specialized cells found in the pancreas. The hormone it secretes is called insulin. The function of insulin is to metabolize sugar (carbohydrates).

Gonads

These are commonly called the sex glands. In the female they are called the ovaries and in the male the testes.

The ovaries are located close to the lateral walls of the pelvic cavity in the female. The hormones they secrete are estrogen and progesterone. Estrogen determines the secondary sex characteristics of the female. It also prepares the uterus to receive the fertilized ovum. Progesterone is necessary for full growth of the mammary glands and it maintains pregnancy.

The testes, in the male are located in the scrotal sac. The hormone they secrete is called testosterone. They are responsible for the development of the male secondary sex characteristics and are essential for the normal sexual behavior in the male.

Exercise

Answer the following questions about the endocrine system by placing a check (✓) beside each true statement.

1. Introduction

_____a. This system is a group of glands with ducts.

_____b. Hormones are secreted directly into the blood or lymph system.

_____c. Endocrine glands help regulate body functions.

2. Some of the properties of hormones are:

_____a. They are substances produced by the blood.

_____b. They are secreted into and distributed by the blood.

_____c. They are very weak in small amounts.

3. The pituitary gland

_____a. is often called the master gland.

_____b. is located at the base of the brain.

_____c. secretes a hormone called trophic.

_____d. regulates the functional activity of the other endocrine glands.

4. The thyroid gland

_____a. is located in the anterior middle portion of the neck.

_____b. secretes a hormone called parathyroid.

_____c. stores iodine.

_____d. regulates basal metabolism.

5. The parathyroid gland

_____a. is located within the thyroid gland.

_____b. secretes a hormone called thyroxin.

_____c. regulates calcium and phosphorous metabolism.

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6. The adrenal glands

_____a. are located on the superior portion of each kidney.

_____b. secretes a hormone called epinephrine.

_____c. decreases heart rate, blood pressure and respiration.

7. The islets of langerhans

_____a. has specialized cells found in the liver.

_____b. hormone is called insulin.

_____c. is responsible for the metabolising of sugar and starches.

8. The gonads

_____a. In female located close to the lateral walls of the pelvic cavity.

_____b. In male located in the scrotal sac.

_____c. In female hormones called estrogen and progesterone.

_____d. In male hormone is called testosterone.

_____e. Estrogen and testosterone are both responsible for secondary sex characteristics.

Check with your instructor when completed____________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR

THE MALE AND FEMALE REPRODUCTIVE SYSTEMS

Exercise

1.

2.

3.

Refer to Handout 3ABR90230-I-6a, Entitled Anatomical Drawings

Male Reproductive System

The scrotum is a sac which contains and supports the testes. It maintains the proper temperature of the sperm cells for improper temperature will cause sterility. This is why undescended testicles must be corrected.

The testes, as stated above, are located inside the scrotum. The function of the testes is to produce sperm cells from puberty throughout life. The sperm cells are necessary for the fertilization of the mature egg cell (ova) of the female. The testes also produce testesterone which is responsible for the secondary male sex characteristics, such as a deep voice, hair on the chest and face.

The epididymis is located superior and posterior to each testes. It's function is to store sperm.

The ves deferens extends from the epididymis to the ejaculatory duct. It's function is to transport sperm from the epididymis to the ejaculatory duct. This is what is involved when a vasectomy is performed. Part of the vas deferens is surgically removed.

The seminal vesicles are located posterior to the bladder and joins with the vas deferens in the prostate gland to form the ejaculatory duct. These vesicles secrete a fluid (alkaline) to keep the sperm alive.

The ejaculatory duct is located in the prostate gland and it's function is to transport the sperm and seminal fluid to the urethra.

The prostate gland surrounds the upper part of the urethra. It is frequently the site where bacteria enter the reproductive system. It is also a common site of cancer in middle aged men. It's function is to secrete an alkaline fluid which promotes the motility of the sperm.

The cowper's glands are situated one on either side of the urethra. Their function is to secrete an alkaline viscid fluid which protect the semen.

The penis of the male contains the urethra and it's function is the discharge of semen and urine.

The purpose of the glandular secretions discussed above is, to keep the sperm alive, keep the sperm mobile and to neutralize the vaginal secretions. Semen is composed of sperm cells, seminal fluid prostate fluid and cowper's fluid. In each ejaculation of 3 ml. of semen is contained 200 - 400 million sperm which can live for approximately 72 hours. Less than 100 million sperm makes fertilization extremely difficult.

Exercise

Match each of the following statements in Column A with the correct answer in Column B, by placing the correct letter in the blanks provided.

Column A	Column B
_____1. Supports the testes	a. Epididymis
_____2. Produces sperm and testersterone	b. Testes
_____3. Stores sperm	c. Semen
_____4. Extends from the epididymis to the ejaculatory duct	d. Cowper's gland

_____5. Secretes a alkaline fluid and is located posterior to the bladder.

_____6. Located in the prostate gland

_____7. Common site for cancer in middle aged men

_____8. Secretes an alkaline viscid fluid

_____9. Contains the urethra

_____10. Composed of sperm cells, seminal fluid, prostate fluid and cowpers fluid.

e. Ejaculatory duct

f. Scrotum

g. Vas deferens

h. Penis

i. Prostate glands

j. Seminal vesicles

Check with your instructor when completed________________

GO NO FURTHER UNTIL TOLD TO DO SO BY YOUR INSTRUCTOR

Female Reproductive System

The ovaries are the primary sex organs of the female. They correspond to the testes in the male. They lie above and on either side of the uterus. The function of the ovaries is to produce and expel ova which is the unfertilized egg. The ovaries produce the female hormones, estrogen and progesterone.

The fallopian tubes are two thin, flexible, trumpet shaped tubes They connect the ovaries with the uterus. It's functions are to transport the ova to the uterus and this is where fertilization occurs.

The uterus is a hollow, thick-walled organ. It lies between the rectum and the bladder. It has three divisions the fundus, body and cervix. The fundus is the uppermost part, the body the middle portion and the cervix is the lower most part. It is responsible for receiving, retaining and nourishing the fertilized ovum. It is also the organ of menstruation.

The vagina is a passageway which connects the cervix with the outside of the body. It's functions are the discharge of the menstrual flow, it's the organ of intercourse and is also called the birth canal.

The external genitalia consist of the urinary meatus, vagina, perineum and the anus

The menstrual cycle in the female reflects the monthly rhythmical changes in the secretion of hormones and in the reproductive organs themselves. Discription: The endometrium of the uterus (lining) builds up with extra tissue and blood to receive the fertilized ovum. The mature ovum is released from the ovary, if the ovum hasn't been fertilized the endometrium sloughs off and is expelled from the body. Menstruation is the periodic discharge of the lining of the uterus and occurs because fertilization has not occurred. Menstruation occurs approximately every 28 days and lasts from 3 to 5 days. There are physical and emotional changes brought about because of the changes in hormone levels. These are only temporary

Exercise

Match each of the following statements in Column A with the correct answer in Column B, by placing the correct letter in the blanks provided.

Column A

_____1. Located above and on either side of the uterus

_____2. Fertilization occurs here

_____3. Receives, retains and nourishes the fertilized ovum

_____4. The lowermost part of the uterus

_____5. Commonly called the birth canal

_____6. The built up endometrium sloughs off and is expelled from the body

_____7. Occurs approximately every 28 days

Column B

a. Uterus

b. Menstruation

c. Fallopian tubes

d. Ovaries

e. Menstrual cycle

f. Uterus

g. Cervix

h. Vagina

Check with your instructor when completed__________________

The contents of this SW did not encompass the entire spectrum of the structure and function of the human body. There are several texts available which fulfill that purpose and for those wishing to delve more deeply into the subject should check with your instructors for additional reference books.

This SW was written primarily to satisfy the basic requirement of the 90230 Medical Service Specialist. As you're aware there are large numbers of Medical Service Specialists being trained to assist the physician and nurse with patient care. It is important that you have a clear, if not detailed, understanding of the principles of the human body so that you may perform your duties intelligently. It is hoped that this SW will serve as a handy reference throughout this course for anyone who needs a brief review of the material.

An effort was made to present the material in a concise and accurate manner within the limitations that simplification brings to any subject. For this reason, the systemic approach was used, with the caution that the body must not be thought of as functioning in a compartmentalized manner. The illustrations in 3ABR90230-I-6a are intended to amplify and clarify the written material, and the review questions throughout the SW should stimulate thought on the part of the student.

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STUDY GUIDE AND WORKBOOK

3ABR90230-I-7

10-10

Technical Training

Medical Service Specialist

VITAL SIGNS

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-I-7
November 1975

VITAL SIGNS

OBJECTIVE

Given the necessary equipment, accurately measure and record the temperature, pulse, respiration and blood pressure of a simulated patient (peer) to within the following variances of the instructor's reading of the same patient:

Temperature: + or - 2 degrees

Pulse: + or - 2 degrees

Respiration: + or - 2 degrees

Blood Pressure: + or - 4 degrees

INTRODUCTION

The act of monitoring the body in its daily activity plays a vital role in patient care. Vital signs are a part of this monitoring and are the responsibility of nursing service personnel. The term "vital signs" is commonly used to refer to TPR and often includes BP. Absolute accuracy is needed when obtaining and recording this data as diagnosis, treatment and evaluation of patient progress is greatly influenced by what you record.

Analysis of vital signs of many healthy people has resulted in the establishment of "norms." Although each person has their own particular set of normal vital signs, we know when his systems are functioning within the acceptable range of health. Any marked deviation from the normal range demands explanation and sometimes treatment.

If you have ever participated in active sports such as football, basketball, or running, you may recall sensing that your heartbeat and your breathing were more rapid for a time. This was your body's response to a need for more oxygen; a normal physiological response as long as you didn't push yourself beyond the demands that your systems could meet.

Disease mainly consists of situations which either impair the ability of the body's systems in keeping up with normal demands or situations which impose greater demands. The body's efficiency in regulating its heat (T), heart action (P), breathing (R), and pressure on arterial walls (BP) to keep up with demands therefore is a significant measure of current physiological status.

INFORMATION

TEMPERATURE

Body temperature is the measurement of the balance between heat production and heat loss. Chemical reactions occur in the body producing heat and energy that are necessary to carry out the life processes in every organ and cell. If all the heat formed were stored by the body, the tissues would burn up and the body would be destroyed. Some of this heat must be eliminated and the body does so through the skin, lungs, urine and feces.

When the heat loss and heat production are in balance, the normal body temperature at rest is 98.6^{O}F., orally. "Normal" may vary with individuals and a temperature of a degree either way may not always be considered abnormal.

This supersedes SW 3ABR90230-I-X July 1975.

Many factors affect the body temperature in a person who is well. The temperature is higher in the late afternoon, in warm weather or a warm environment, following strong emotions, and after eating. Decreases in body temperature occur during sleep, fasting, continued exposure to cold and inactivity.

Persons who are ill will have an elevated temperature when there is an infection in the body, a wasting illness, or a problem with the heat regulating center in the central nervous system. A constant sub-normal temperature in a patient is usually an indication that there is a problem with the heat regulating center or inactivity of the glands.

Shivering and sweating are ways in which the body helps keep the body temperature in balance. The body shivers in an attempt to increase the body temperature; it sweats to allow heat to escape through evaporation of the perspiration.

The body temperature cannot be measured orally for the patient who has difficulty in breathing, the patient with a nasogastric tube inserted, or in infants and small children. In such cases, a rectal temperature is taken. Occasionally, there may be times when neither method can be used, as in severe traumatic injuries. Then the thermometer is placed where it is surrounded by body tissue and where blood vessels come in immediate contact with the thermometer. The axilla and groin are two such sites. The measurement in these areas is approximately one degree lower than an oral temperature.

The primary way to identify the thermometer is by the bulb. The oral thermometer has a slender bulb, while the rectal and axillary thermometers have a stubbier end to prevent injury. In addition, "oral" and "rectal" are usually identified on the thermometer. For health reasons as well as obvious reasons, the thermometers must be kept separate.

Nursing actions directed to restoring normal temperature are important, not only as a matter of comfort to the patient, but because the body must work harder to maintain body functions and because convulsions may occur with high elevations, especially in children. A simple action to lower body temperature is to modify the environment: remove excess dress or bed covering and regulate the temperature of the room. Since exercise increases temperature, control the amount of body intake or a sponge bath.

With sub-normal temperatures, adjust the room temperature and eliminate drafts. Apply additional top covering as necessary. Give warm fluids if permitted and implement the doctor's order for external heat.

PULSE

When the left ventricle contracts, a wave of blood is forced into the arteries, expanding them. Each expansion of the arteries, called the pulse, varies with the strength and regularity of the heart. The heart beats in response to the body's need for oxygenated blood, and, as the heart rate increases, so does the pulse. Thus, the pulse speeds up with exercise or eating and decreases in sleep or inactivity. "Normal" pulse rate at rest is 72-82 beats per minute, but this may vary with individuals. It is also normally faster in infants and women, and slower in old age.

In disease conditions, the pulse rate is an important measure of the heart's adjustment to meeting the body's need for oxygenated blood. When something happens to normal blood volume, to the oxygen carrying ability of the cells or if there is a need for increased oxygen, the pulse will increase. You can therefore expect to see a more rapid pulse in fever, hemorrhage or shock. Drugs which stimulate the heart will also increase the pulse. The pulse will slow when hormone activity is low, with drugs which slow the heart, and in severe heart conditions.

The most common site for taking the pulse is at the radial artery on the wrist. Other locations where the pulse may be counted include the following arteries: temporal (side of the head), carotid (front side of the neck), apical (at the heart), femoral (groin), Popliteal (behind the knee), and pedal (top of the foot).

Your responsibilities are to count and record your findings accurately. Report abnormalities which include quick changes in the rate, irregular rhythm, or a weak or thready pulse.

Problems that many new specialists encounter while taking the pulse are due to the fact that they compress the artery too firmly or too lightly, select an improper location or have difficulty counting an unusual pulse. While experience will increase your proficiency, there may be times when you will need some assistance and you should not hesitate to seek help.

RESPIRATION

Respiratory rate is the rate of breathing in and breathing out. The lungs take in air which contains the oxygen needed by the blood stream for delivery to all body cells. Cells give up carbon dioxide to the blood stream in exchange for oxygen. Heart and lung action are greatly independent. Thus, factors such as increase in exercise, emotion and body temperature will increase respiration. Age affects respirations; at birth the respiration is high, with increasing age it slows, and in the elderly the rate is low. "Normal" rate is approximately 16 per minute.

Numerous things may alter normal exchange of carbon dioxide and oxygen in the lungs such as obstruction of some of the air passages, damaged lung tissue or limited voluntary of air breathing.

In addition to rate, respirations have characteristics of depth and quality. Respirations may be deep or shallow, difficult or effortless, accompanied with yawning, sighing or snoring. The color of the patient is another important indication that the patient is having respiratory problems.

Your responsibilities include accuracy in measuring, charting, and reporting abnormalities. The nurse should be notified if there are rapid respirations, abnormal quality or depth, or poor coloration.

The specialist may find it difficult at first to count respirations; expecially, without the patient knowing it. Placing the patient's arm over the chest and counting the rise and fall of the chest following pulse count is the easiest method, but is not recommended for the female patient.

BLOOD PRESSURE

Blood pressure is the force exerted by the blood against the walls of the blood vessels as it flow through them. Primarily, the volume of blood in the arteries maintains your blood pressure. As long as the amount of blood leaving the arteries is equaled by the amount being pumped by the heart, the blood pressure is stable. Should some of the small elastic vessels relax and accept more blood, or become too rigid and accept less blood, the blood pressure could be drastically altered.

Systolic pressure represents the highest point at which you hear the sound of the heart beat which occurs when the heart's ventricles contract. Diastolic pressure is the lowest point at which you hear the sound of the heartbeat which occurs during ventricular rest. (Some people prefer to use the point at which the beat softens as diastolic--this is not wrong; only more difficult). The average "normal" adult blood pressure is 120/80, but there is a range of normal values depending on individual variations:

Systolic Range	100-140
Diastolic Range	60- 90

Many factors affect blood pressure in the person who is well. It is normally lower in children, slightly higher for men than women of comparable age, higher in obesity, and higher under emotional distress, excitement or muscular exertion. Disease conditions which affect the circulatory and renal systems may increase the blood pressure; diseases that weaken the heart may lower pressure; pain will elevate pressure; certain drugs may cause an increase or decrease; hemorrhage and shock lower the blood pressure. Terms used to describe blood pressure include hypertension which means elevated BP (usually above 150/systolic) and hypotension which means lowered BP (usually below 70/systolic).

Your responsibilities include accuracy in measuring, accuracy in charting and reporting abnormal findings. The nurse should be notified if there is a change; either, a rapid or gradual lowering or rising of the of the BP.

Many beginners have problems in taking BP because the cuff is wrapped too tightly, the stethoscope is pressed too tightly on the artery, the artery is not located, the cuff is deflated too rapidly or slowly, or the specialist cannot believe the sounds that he hears. You may need and should seek assistance until you gain proficiency.

QUESTIONS

1. What three things will be influenced by the vital signs you measure and record?

2. What is the purpose for measuring...

   a. Body Temperature

   b. Pulse rate

   c. Respiratory rate

   d. Blood pressure

3. How would you measure these four vital signs for one patient in the shortest amount of time?

4. How would you organize to measure vital signs of two or three patients in an efficient manner?

CHARTING VITAL SIGNS

Charting vital signs will be a frequent and important task that you must perform accurately, for the doctor will rely heavily on the information you enter in the patient's record. This portion of your workbook will provide you with an opportunity to practice charting so that you will be able to record your findings accurately during laboratory performance and in the hospital. If you encounter any problems, seek help from your instructor.

When you take vital signs, you will first record your findings on a worksheet in pencil. This worksheet contains information concerning the patient's name, room number, hospital day, post-op day, time the vital signs were taken, and any other information the ward personnel may want to record.

DATA RECORD

10 Oct 72 TPR Worksheet 25

	Hosp Day	Post Op Day	0200	0600	1000	1400	1800	2200	B.P.
1a. J. Jones	Adm		—	—	100^{8}·88·32	101·92·24	102^{6}·96·28	100·84·24	
b. H. Henry	4	2	—	100^{2}·92·20	99^{1}·84·20	99^{0}·84·16	99·80·16	98^{2}·80·20	
c. C. Dunn	2		—	—	98·72·16	—	98^{6}·72·16	—	
d. T Bromworth	3	2	103·100·28	101·98·24	100^{4}·88·20	101^{8}·92·24	102^{1}·100·28	101^{4}·92·24	

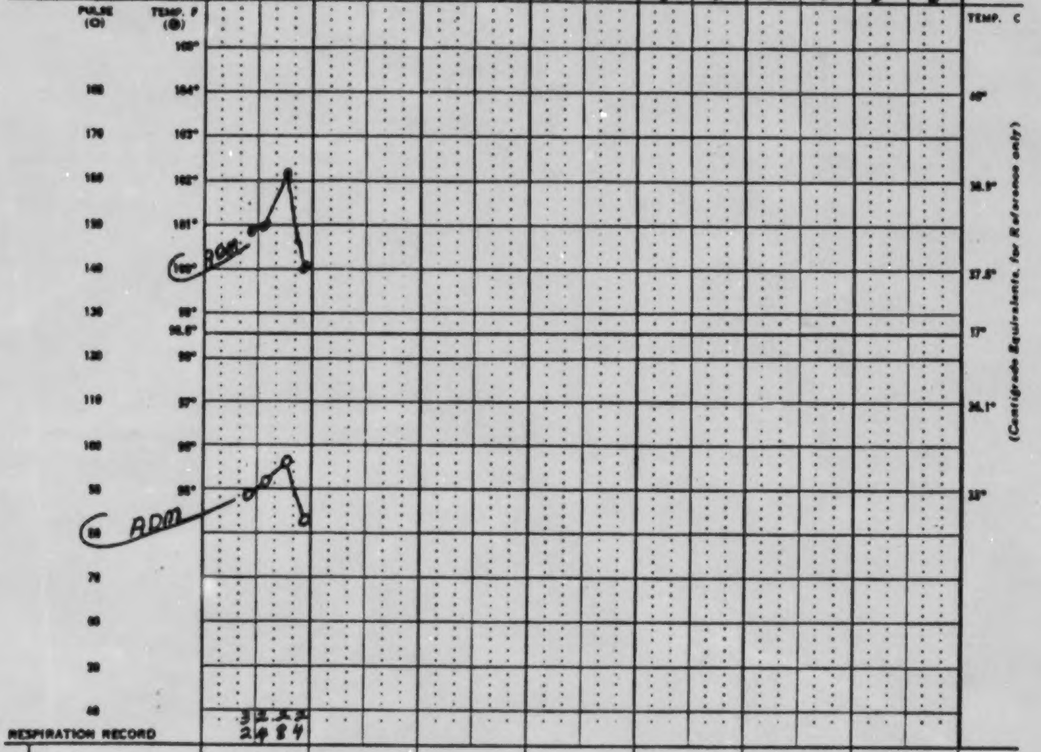
This information is then transferred to the TPR sheet (Form 511) in dark pen. A completed TPR sheet is shown on page 6. The pages following the sample will explain the recording process.

Standard Form 511
Rev. August 1956
Bureau of the Budget
Circular A—32

CLINICAL RECORD

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT

HOSPITAL DAY		Adm	1	2	3	4	5	6
POST- op DAY				op	1	2	3	4
MONTH-YEAR	DAY	10	11	12	13	14	15	16
Oct 1972	HOUR	2 6 10 2 6 10	2 6 10 2 6 10	2 6 10 2 6 10	2 6 10 2 6 10	2 6 10 2 6 10	2 6 10 2 6 10	2 6 10 2 6 10



BLOOD PRESSURE		134/88
HEIGHT: 6-0	WEIGHT:	185

Record special data only when so ordered

ALLERGIC TO PENICILLIN!

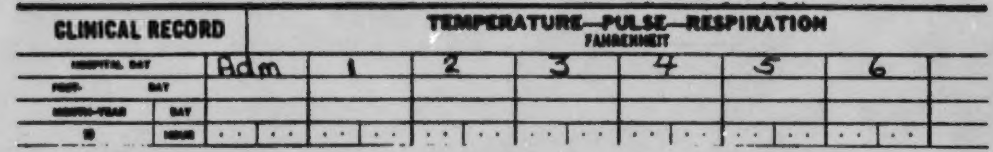
PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

REGISTER NO.	WARD NO.
576312	2S

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT
Standard Form 511
511-108

Jones, James A/1C

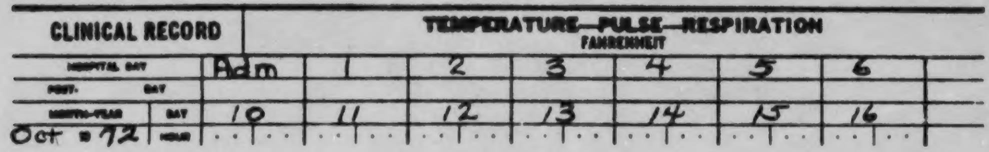
1. The TPR graph is divided into 7 major columns, each representing one day. The day on which the patient is admitted to the hospital is recorded by entering "Adm" opposite the "hospital day". Successive hospital days are then recorded as his stay lengthens. One side of the sheet will provide space for 7 days. When the sheet is filled, the form is turned over and the numbering is continued--7, 8, etc.



CLINICAL RECORD — **TEMPERATURE—PULSE—RESPIRATION** FAHRENHEIT

HOSPITAL DAY	Adm	1	2	3	4	5	6	
POST- DAY								
MONTH-YEAR DAY								
19 HOUR								

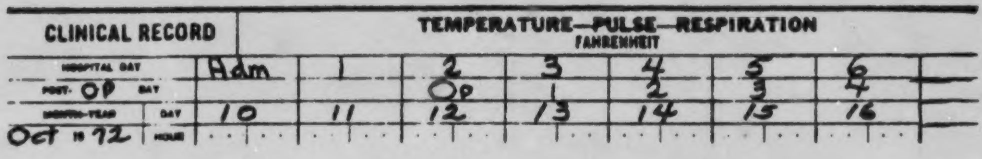
2. The date on which the patient arrives is entered under "Month-Year" and opposite "Day". If a patient arrives on 10 October 1972, the fact is entered and successive dates are entered as he remains.



CLINICAL RECORD — **TEMPERATURE—PULSE—RESPIRATION** FAHRENHEIT

HOSPITAL DAY	Adm	1	2	3	4	5	6	
POST- DAY								
MONTH-YEAR DAY	10	11	12	13	14	15	16	
Oct 19 72 HOUR								

3. On a surgical ward it is important to note the patient's progress in relation to his date of operation. This may be indicated by entering "Op" above the calendar date of surgery and recording successive days thereafter. Here, the patient had surgery 12 Oct 72. His first post-op day begins the following day, 13 Oct 72.



CLINICAL RECORD — **TEMPERATURE—PULSE—RESPIRATION** FAHRENHEIT

HOSPITAL DAY	Adm	1	2	3	4	5	6	
POST- OP DAY			Op	1	2	3	4	
MONTH-YEAR DAY	10	11	12	13	14	15	16	
Oct 19 72 HOUR								

4. You will notice that each daily column is divided in half: one for a.m. and one for p.m. Each of these divisions is further divided into 3 parts by 2 dotted lines. This allows space for 3 a.m. recordings and 3 p.m. recordings. In the diagram below, vital signs are taken at 0200, 0600, 1000, 1400, 1800, and 2200 hrs. The patient may not have his vital signs taken at each of these times, but space is allowed if it becomes necessary. Though times may vary in different hospitals the recordings will always be entered in the proper a.m. or p.m. divisions.

CLINICAL RECORD | **TEMPERATURE—PULSE—RESPIRATION**
FAHRENHEIT

HOSPITAL DAY		Adm		1		2		3		4		5		6		
POST- OP	DAY					Op		1		2		3		4		
MONTH-YEAR	DAY	10		11		12		13		14		15		16		
Oct 19 72	HOUR	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	2 6 10	

5. Situation: A patient enters the ward 13 Oct 72. He undergoes surgery on 15 October 1972. From the time of his admission, the doctor has directed that his TPR be recorded four times daily (1000, 1400, 1800, and 2200). Record the necessary information below, preparing the headings for the period 13-18 October.

CLINICAL RECORD | **TEMPERATURE—PULSE—RESPIRATION**
FAHRENHEIT

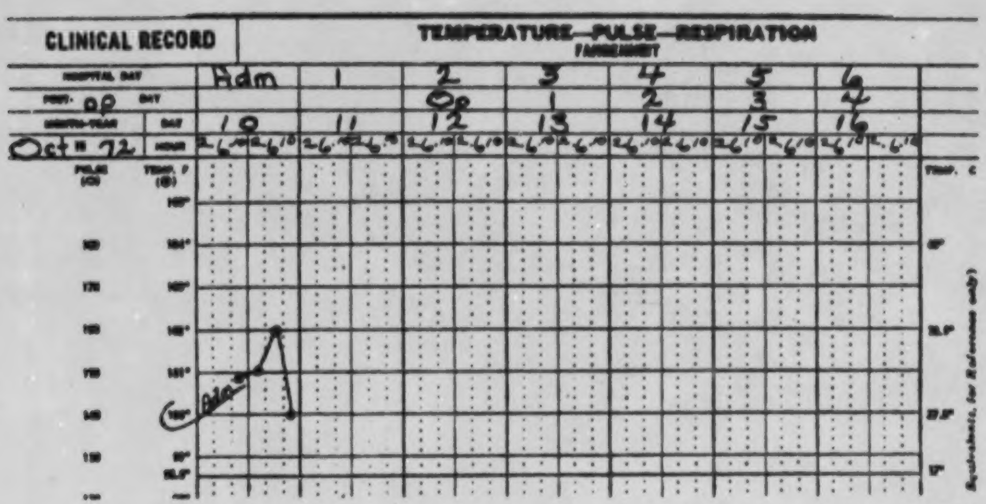
HOSPITAL DAY																
POST-	DAY															
MONTH-YEAR	DAY															
19	HOUR															

6. Situation: H. Dunn was admitted on 7 Oct 72. Surgery is planned on 11 Oct; temperatures are recorded four times a day as described above. Prepare the proper headings.

CLINICAL RECORD | **TEMPERATURE—PULSE—RESPIRATION**
FAHRENHEIT

HOSPITAL DAY																
POST-	DAY															
MONTH-YEAR	DAY															
19	HOUR															

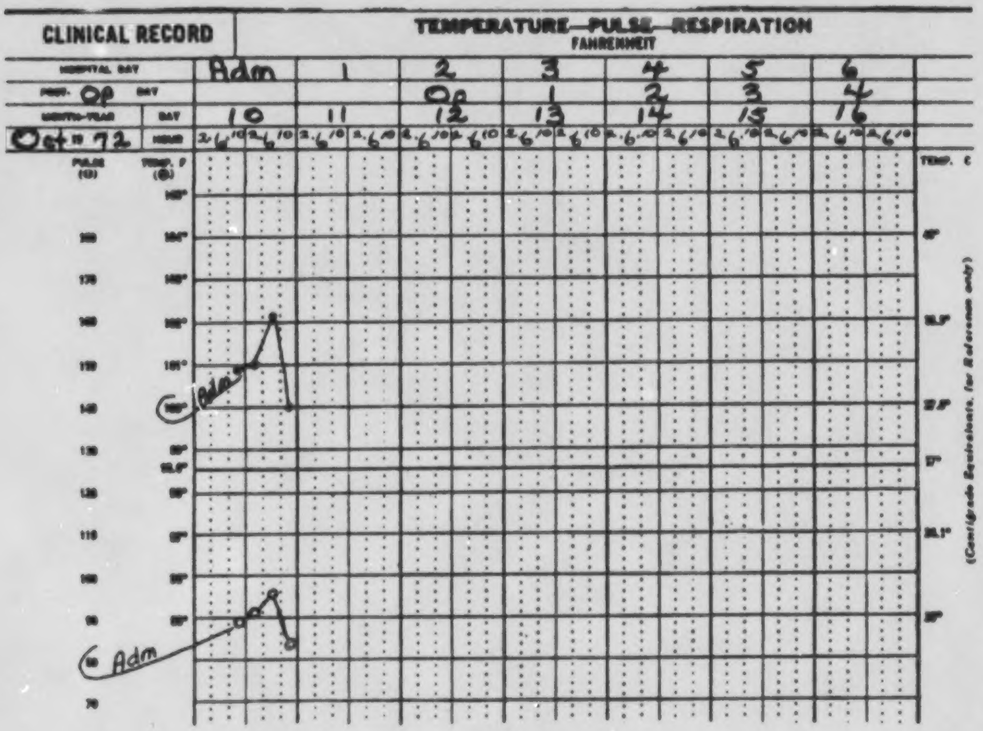
7. Reading the dotted lines vertically, each dot represents 0.2 of a degree Fahrenheit when charting temperatures. Temperatures are recorded as a solid dot and placed in the spaces between the vertical lines. The readings are listed in the right hand column under "Temp. F". Look at the following diagram and see if you are able to match the temperature readings for J. Jones as recorded on the worksheet on page 6.



8. Situation: Using the graph above, chart the following temperatures:

11 Oct	0200-T 101	12 Oct	1000-T 99
	0600-T 100^{2}		1800-T 98^{4}
	1000-T 99		
	1400-T 99^{8}		
	1800-T 98^{6}		
	2200-T 98		

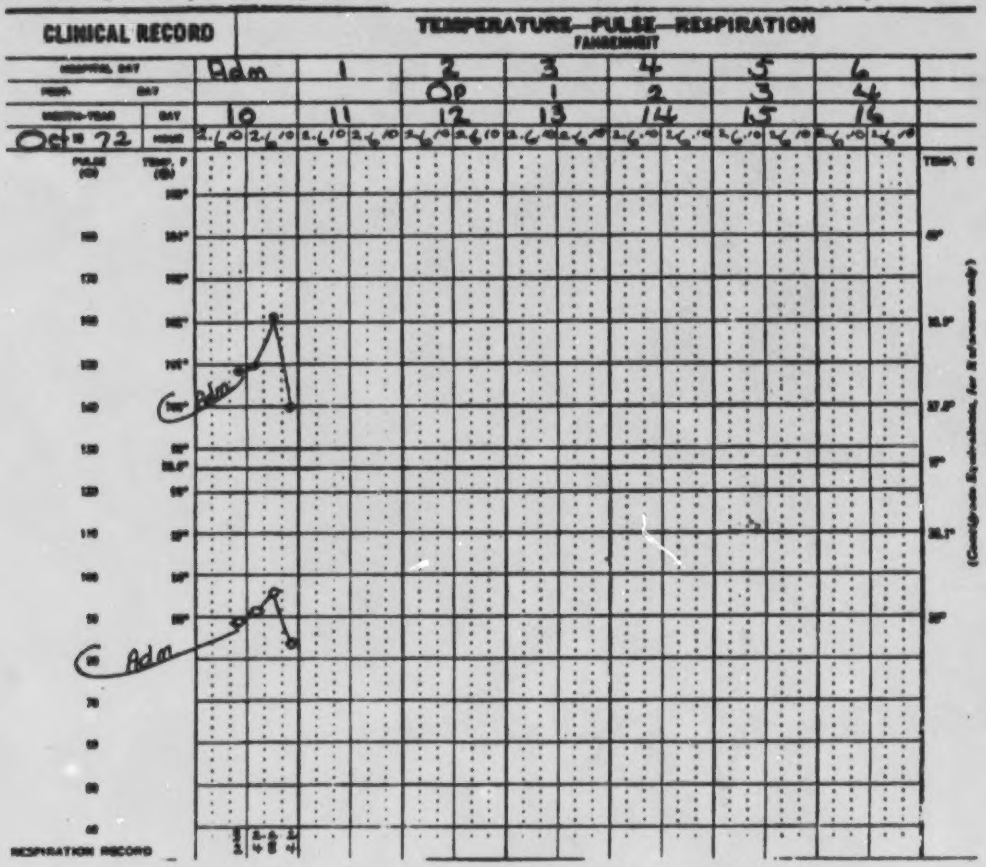
9. Each dot on the vertical line represents 2 beats of the pulse. Pulses are charted as a small circle in spaces. The readings are listed at the far left hand side under "Pulse". Match the pulse recordings for J. Jones on the following diagram.



10. Chart the following pulses on the graph above.

11 Oct	0200-P 96	12 Oct	1000-P 88
	0600-P 92		1800-P 80
	1000-P 92		
	1400-P 88		
	1800-P 84		
	2200-P 80		

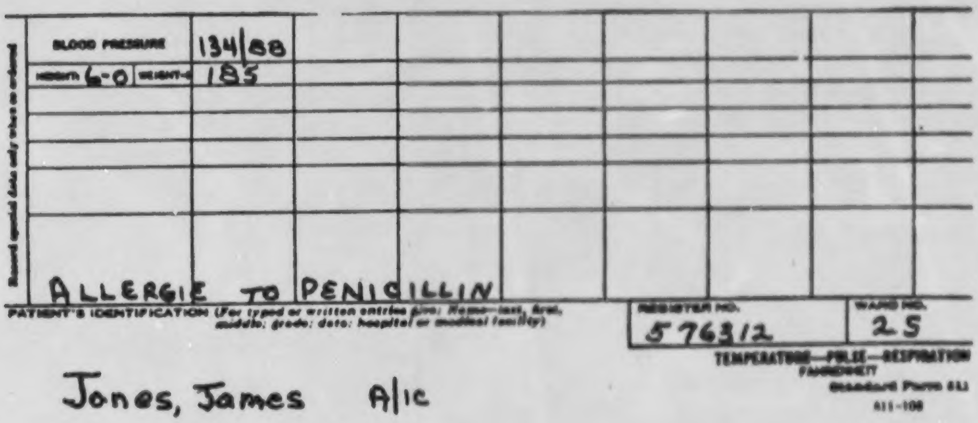
11. The patient's respiration rate is entered at the bottom portion of the form opposite "Respiration Record". They are entered vertically here to allow for maximum legibility, but may be entered horizontally if it is local policy.



12. Situation: Chart the following respiration rates on the graph above:

11 Oct	0200-R 32	12 Oct	1000-R 28
	0600-R 32		1800-R 20
	1000-R 28		
	1400-R 28		
	1800-R 24		
	2200-R 20		

13. Now look at the remaining portions of the form. The patient's blood pressure, height, and weight are recorded in the appropriate blocks under the date and time they were taken. If blood pressures are taken twice a day they can easily be entered on this form. When they must be taken more frequently they are usually recorded on a separate plotting chart. Allergies are noted at the bottom of the form. The patient's identification is stamped with an adressograph or entered legibly in pen until the stamp arrives.



Record special data only when so ordered

BLOOD PRESSURE	134/88							
HEIGHT 6-0 WEIGHT	185							

ALLERGIE TO PENICILLIN

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

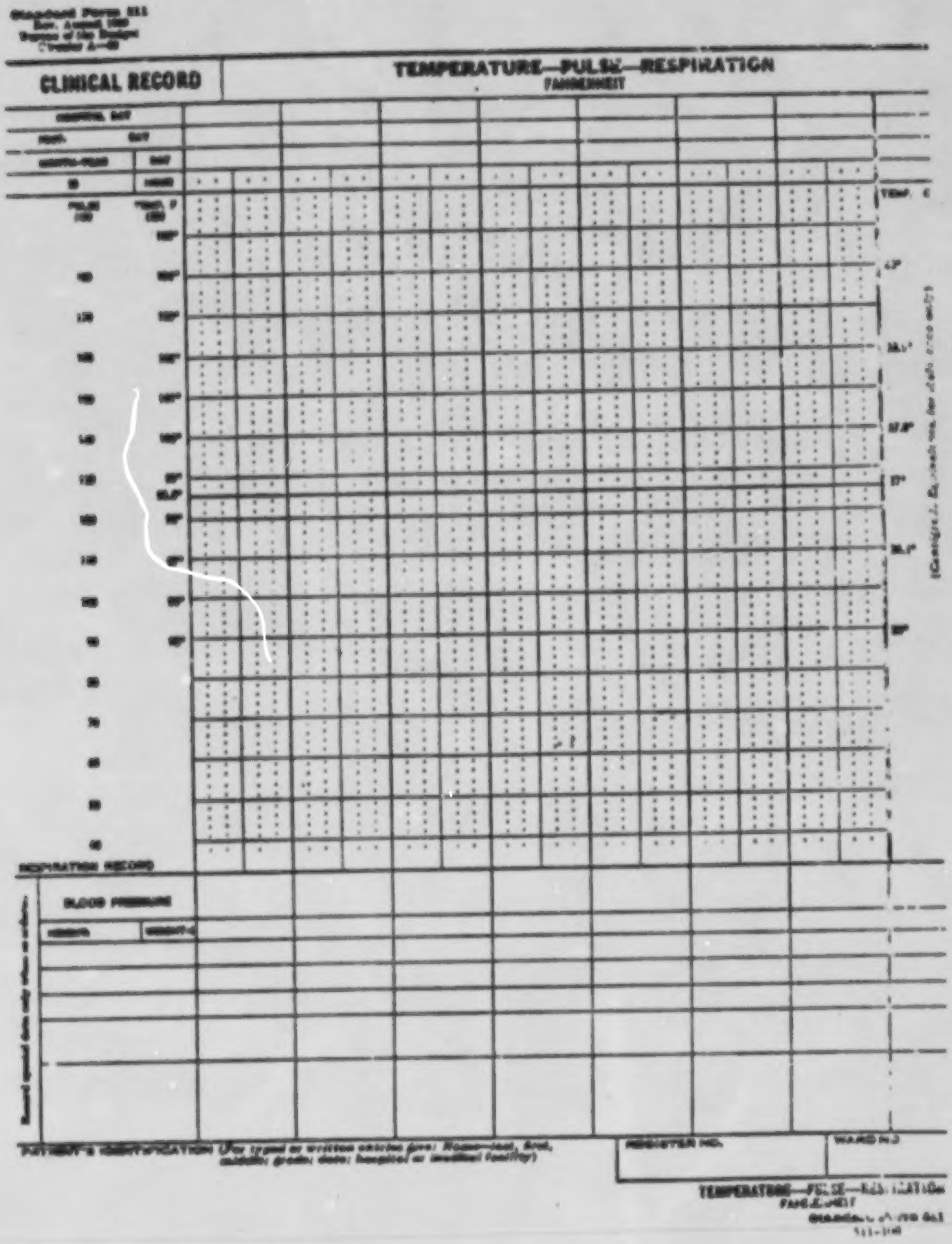
Jones, James A/1C

REGISTER NO. 576312

WARD NO. 25

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT
Standard Form 511
511-108

14. You are assigned to chart the remaining vital signs listed on page 6. Use the TPR graphs on the following 3 pages to fill in the proper headings and recordings for each patient. You will need to figure out the proper column for charting on the 10th of October. Make up a height, weight, BP, and allergy for each patient.



CLINICAL RECORD

TEMPERATURE—PULSE—RESPIRATION

FAHRENHEIT

RESPIRATION RECORD

BLOOD PRESSURE

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

REGISTER NO.

WARD NO.

TEMPERATURE—PULSE—RESPIRATION

FAHRENHEIT

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Standard Form 511
Rev. [illegible]
Bureau of the Budget
Circular A-32

CLINICAL RECORD

TEMPERATURE—PULSE—RESPIRATION

FAHRENHEIT

HOSPITAL DAY

POST- DAY

MONTH-YEAR DAY

HOUR

PULSE	TEMP. F	TEMP. C
	106°	
180	105°	
170	104°	40°
160	103°	
150	102°	38.9°
140	101°	
130	100°	37.8°
	98.6°	37°
120	98°	
110	97°	36.1°
100	96°	
90	95°	35°
80		
70		
60		
50		
40		

(Centigrade Equivalent, for Reference only)

RESPIRATION RECORD

BLOOD PRESSURE

HEIGHT: WEIGHT:

Record special data only when so ordered

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

REGISTER NO.

WARD NO.

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT
Standard Form 511

14

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Standard Form 511
Rev. August 1954
Bureau of the Budget
Circular A-32

CLINICAL RECORD

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT

HOSPITAL DAY

POST- DAY

MONTH-YEAR | DAY

HOUR

PULSE (○) | TEMP. F (●) | TEMP. C

RESPIRATION RECORD

Record special data only when so ordered

BLOOD PRESSURE

HEIGHT | WEIGHT

(Centigrade Equivalents, for Reference only)

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

REGISTER NO.

WARD NO.

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT
Standard Form 511
511-108

PROCEDURES FOR TPR	RATIONAL
1. Temperature (oral)	
a. Check to see if patient has had anything hot or cold to drink in past 10 minutes.	This may deviate the temperature.
b. Insert mercury end of oral thermometer under the patient's tongue.	
c. Instruct patient to refrain from talking.	Patient must keep mouth closed.
d. Allow thermometer to register for 7 minutes.	
e. Remove thermometer, wipe with a tissue from stem to bulb.	
f. Read mercury level to nearest 2 tenths of a degree.	
g. Rinse off with cool water.	Use cool water to prevent thermometer from breaking.
h. Place the thermometer in a soaking solution, sufficent to cover thermometer.	
i. Wash your hands.	
j. Record accurate temperature.	If you do not you will defeat purpose for taking temperature.
2. Temperature (rectal)	
a. Prepare thermometer	
b. Explain procedure to patient.	
(1) Use only a rectal thermometer.	Large round mercury bulb to prevent injury to patient.
(2) Lubricate the thermometer.	To aid in inserting it into the rectum.
c. Remain with the patient	To hold the thermometer in place.
d. Place patient in a prone or lateral recumbent position.	
e. Slowly insert thermometer about 1 1/2 inches into the rectum.	
f. Allow 5 minutes to register	Check manufacturer's instructions as to the time.

PROCEDURES FOR TPR	RATIONAL
g. Remove and wipe stem to bulb, and read.	
h. Record the results	
i. Shake down the thermometer and return to soaking solution.	
j. Wash your hands	
3. Temperature (axillary)	
a. Prepare thermometer	
(1) Use an oral thermometer	
(2) Shake down if over 95 ° F.	
b. Explain procedure to patient	
c. Pat the axilla dry of excessive perspiration.	
d. Place thermometer in axilla	
e. Have the patient grasp his opposite shoulder and press his arm against his body.	
f. Let register for 10 minutes	
g. Procede as in oral temperature instructions.	
h. Record "A" above temperature on patient's TPR sheet and on patient's chart.	To show it was an axillary temperature.
4. Procedure for taking a pulse	
a. Radial pulse	
(1) Explain procedure to patient	
(2) Assure patient is in a relaxed position.	Sitting or lying
(3) Support the arm, palms of hand down on table or bed.	
(4) Place middle two or three fingers over radial artery. (Do not use thumb.)	Thumb has a pulse of its own.
(5) Count pulse for 15 seconds and multiply by 4.	
(6) Record an accurate pulse count.	

PROCEDURES FOR TPR	RATIONAL
5. Taking respiration	
a. Do not explain procedure to patient.	This procedure, if explained to patient, may cause a deviation in the respiration
b. Assure patient is comfortable--sitting or lying down.	
c. Count respiration just after taking the pulse while in the same position.	This will aid in taking the respirations without the patient knowing what you are doing.
d. Count respiration for 15 seconds and multiply by 4.	NOTE: In severe disease or irregularity of rhythm or volume. Count for full minute.
e. Record accurately	
6. Taking the blood pressure	
a. Check apparatus for proper function.	
b. Clean the earpieces of the stethoscope with alcohol sponges.	
c. Explain procedures to patient.	
d. Position patient	
(1) Lying down or sitting	
(2) Place arm in an abducted, slightly flexed position, palm upward.	
(3) Support on a firm surface.	
(4) Area should be same level as the heart.	
(5) Eliminate constriction about the arm and axilla.	
e. Apply the cuff	
(1) Cuff should be 1 1/2 times as wide as the arm.	
(2) Approximately 1 inch above the antecubital space.	
(3) Center the inflatable bladder over the brachial artery even and snug.	
f. Take the reading	
(1) Close the pressure system by turning the thumb screw clockwise.	

PROCEDURES FOR TPR

RATIONAL

(2) While listening with the stethoscope rapidly pump cuff to approximately 30 mm of pressure above cessation of arterial sound.

(3) Observe the upright mercury sphygmomanometer at eye level from a maximum of three feet.

(Aneroid dials may be attached to cuff or placed flat.)

(4) Deflate cuff at a steady rate.

(5) Accurately record first audible sound as the systolic pressure.

(6) Record change in tone or cessation of sound as the diastolic pressure.

g. Remove equipment and replace patient's clothing.

7. Care of equipment

a. Thermometer

(1) Use one time and send back to central supply.

(2) Return to antiseptic solution

b. Stethoscope--clean earpieces with 70% alcohol and also the disc and bell.

c. Blood pressure cuff--place in cuff holder.

QUESTIONS

1. Name two methods for caring for thermometers after use?

2. What is the advantage of each method?

CHECKLIST 3ABR90230-I-7a

	Value	Rating	Remarks
1. Assemble all necessary equipment	5		
2. Explain procedures (temperature, pulse, blood pressure).	5		
3. Assist patient to assume proper position	5		
4. Read thermometer prior to inserting	5		
5. Accurately locate the radial artery	5		
6. Take an accurate radial pulse	10		
7. Count respirations accurately	10		
8. Apply blood pressure cuff accurately	5		
9. Accurately locate the brachial artery	10		
10. Take an accurate blood pressure	10		
11. Read temperature accurately	10		
12. Record temperature accurately	5		
13. Record pulse accurately	5		
14. Record respiration accurately	5		
15. Record blood pressure accurately	5		
TOTAL	100		

Instructor ______________________ Date ______________________

STUDY GUIDE AND WORKBOOK

3ABR90230-I-8

Technical Training

10-10

Medical Service Specialist

ADMISSION AND DISPOSITION OF PATIENTS

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-I-8
November 1975

ADMISSION AND DISPOSITION OF PATIENTS

a. Select the administrative processes of inpatient service.

b. Given the appropriate equipment, accurately complete the admissions process of a simulated patient (peer) to an inpatient unit. Sixty-five percent of the items on checklist 3ABR90230-I-8 must be accomplished.

INTRODUCTION

"The record speaks for itself" is a statement frequently heard. It is particularly true when referring to hospital records. From the time of the patient's admission to the hospital to the moment of his discharge, accurate records must be maintained in order to give a complete picture of the patient's hospitalization. Decisions about diagnoses, treatments, and medications are based upon the information contained in the patient's medical records. An inaccurately taken or recorded temperature, weight, or blood pressure could change the course of treatment for a patient. The Medical Service Specialist contributes a great deal to the accurate maintenance of the patient's medical records.

INFORMATION

SELECTED ADMINISTRATIVE PROCEDURES

1. Identify selected administrative procedures.

a. Admission and Orientation.

(1) Types of admissions.

There are generally considered to be two types of admissions--those which are planned in advance and those which have little or no planning.

(a) Routine--Planned during a clinic or dispensary visit in which a problem was found that is best cared for by the patient being in the hospital. Examples: Extensive lab tests needed Surgery: Non emergency

(b) Direct or Emergency--The patient is admitted directly to the ward from the Emergency Room or Clinic due to such things as a contagious disease, an accident or the need for immediate obstetric or psychiatric care.

(2) Procedures.

Procedures which are a part of the admission of a patient are accomplished in the following areas:

(a) Clinic or Emergency Room--The patient is examined and an "Admission Authorization", AF Form 560, is signed by the doctor. It includes:

This supersedes SW 3ABR90230-I-8, June 1975.

1 Patient's Diagnosis.

2 Date of Admission.

3 Patient's Name.

(b) Admissions Office - (A and D).

The patient is instructed to go or is taken to the admission clerk. If he is too ill, steps (b) through (d) will be cared for later on the ward. In the A and D office, emergency and other general information is obtained from the patient or a close relative so that new records can be initiated and previous records obtained for the physician's reference.

1 Admission authorization is completed.

2 Addressograph plate is made. This is similar to a charge plate. It contains the patient's name, registration number, ward, rank, etc.

3 Clinical Record Cover Sheet, AF Form 565, is made.

4 Locator Cards. Two or more 3 X 5 cards are made. They contain the patient's name, rank, squadron, admission date, religion, address, and other identifying information.

5 Patient's Clothing Record, AF Form 222 is made.

6 Patient's Identification Band is made.

7 Patient's Valuables Slip, AF Form 1053 is made. If appropriate, patient's valuables are turned in to a Valuables Custodian.

8 Patient Clearance, AF Form 577, is made.

(c) The Clothing Room.

1 Store street clothes.

a Military personnel leave their clothing where it is available, usually in the larger hospitals.

b Dependents, however, store their clothes either on the ward, or are encouraged to send them home.

2 Receive hospital pajamas and robe.

NOTE: If no clothing room is available, all patients are encouraged to send their clothing home if possible.

(d) Laboratory and X-ray. When laboratory tests or X-rays have been ordered, patients are directed to these departments before going to the ward.

(e) The Ward.

1 Welcome the patient and introduce him to the staff.

2 Take him to his assigned bed or room.

3 Give Welcome Booklet to patient.

4 Complete ward admission information. This is sometimes done in the treatment room.

a Take T.P.R. and B/P.

b Weigh patient and measure height.

c Note any observed, or reported signs and symptoms.

d Note any special conditions such as wounds, bruises, or disabilities. (Example: Hearing defect)

e Ask patient if he has any allergies. Allergies require special marking of the metal chart folder and the Doctor's Order Sheet.

f Record and report all above information according to local practice.

4 Check the patient's identification band for correct information.

5 Review and discuss the ward policies.

6 Orient your patient to his surroundings.

a Introduce him to other patients in the room or nearby.

b Explain and demonstrate the call bell.

c Show him lavatory facilities.

d Meal hours, location of dining hall and other things of interest to the patient.

7 Check with the nurse for any treatments or orders from the doctor that should be started.

b. Assembling and Maintaining Records.

(1) Label the metal chart holder with the patient's name.

(2) Stamp the following basic chart forms with the addressograph plate. Place them in the metal chart.

(a) Admission Authorization, AF 560.

(b) History Part I, SF 504.

(c) History Part II, SF 505.

(d) Physical Exam Form, SF 506.

(e) Doctor's Progress Notes, SF 509.

(f) Doctor's Orders, AF Form 3066.

(g) Nursing Notes, SF 510.

(h) TPR Graphic, SF 511.

(i) Radiographic Reports, SF 519.

(j) Lab Report, SF 545.

(k) Clinical Record Cover Sheet, AF 565.

NOTE: All chart forms and diagnostic test forms must be stamped with the addressograph, or have patient identification written in longhand before any notes are added to them to eliminate error.

(3) Assemble the above forms in the metal chart and place the Clinical Record Cover Sheet at the bottom (for future reference).

(4) Stamp and assemble the following chart forms in the Nursing Kardex.

(a) Medication Administration Records, AF Form 3069.

(b) PRN Medication Administration Record, AF Form 3068.

(c) Add one locator card to the top portion of Kardex unit for easy access to emergency information.

(5) Do not move the colored tabs used in the Kardex unless specifically instructed to do so. They are flags which simplify staff communications.

(6) Place a locator card on the foot of the patient's bed in the holder that's provided.

c. Scheduling Appointments.

(1) When you are working on a ward, you may be asked to assist with scheduling of patients' tests, examinations, or consultations with other departments. Laboratory slips, consultation forms or both usually have to be prepared. These forms serve as adequate verification of the request and will be completed by the person to whom the patient is referred. The forms are then returned to the patients' ward to be added to his clinical record (Chart). As a new specialist, you may be asked to stamp these forms with the addressograph plate but the physician, nurse, or other designated personnel will fill in other necessary referral information. Important things to remember about making appointments:

(a) When calling another department, be sure to state:

1 The patient's name and ward.

2 The physician's name.

3 The specific test, treatment, or information desired.

4 Any other information requested such as diagnosis.

(b) Be sure to note:

1 The exact time and place of appointment.

2 Any special preparation needed.

3 Any items which must accompany the patient. Example: Clinical record or X-rays.

(c) The patient must be notified that he has an appointment. (Unless you have been specifically advised not to tell him.)

The forms mentioned above must go with the patient when he keeps his appointment if they have not previously been forwarded to the referral department.

(2) When you are working in a clinic or dispensary. Each facility has its own system of scheduling appointments and you will be instructed as the need arises.

d. Leaves and Passes.

Often patients not yet ready for discharge from the hospital are allowed to go on pass or even on convalescent leave. In larger hospitals, an administrative person is designated as Patient Squadron Commander. Active duty military personnel must process paper work for an absence from the hospital through the Patient Squadron.

(1) Passes--must be approved by the physician and by Patient Squadron.

(2) Convalescent Leaves--in addition to obtaining regular leave forms and to clearing the hospital in a similar fashion to the clearing done at hospital discharge, the patient must leave only on the approval of:

(a) His attending physician.

(b) The chief of the particular hospital service.

(c) The patient squadron or hospital commander.

e. Interward Transfers.

Interward transfer is the transfer of a patient from one Service (ward) to another--as from the Medical to Surgical. The procedure follows:

(1) Obtain consent of medical officers of both wards in duplicate on AF Form 568.

(2) Send one form to the A and D office and keep the other in the patient's chart.

(3) Consult with the receiving ward staff to see when they will be ready for the patient.

(4) Take all the patient's records and belongings with him to his new ward (including the locator card on his bed).

f. Discharge.

When the physician has determined that the patient is ready for discharge, he will write the appropriate order on the order sheet. Then you

(1) Arrange the patient's clinical record.

(a) The clinical records cover sheet must be completed by the physician and will be placed on top of all other chart forms.

(b) Arrange all other forms in numerical order. Example: SF 504, 505, 506, etc.

(2) Give Clearance Form to patient. Below is a possible order for clearing.

Nursing Unit	The nurse signs the form if she has given all the necessary information to the patient, if he has any necessary prescriptions, and if he understands any required follow-up.
A and D Office	The patient presents his completed chart and is dispatched by the disposition clerk to specific hospital areas he will need to clear.
Cashier	To pay meal charges. All officers, dependents, and civilians are charged for their meals. Enlisted personnel are not charged but cannot collect separate rations while in the hospital.
Patient Squadron	To clarify issues pertaining to orders, leave, etc.
A and D Office	Return clearance form.

(3) Clean the Discharge Unit.

Discard the linen in a linen hamper and clean all items in the patient unit thoroughly with a disinfectant solution such as Wescodyne.

2. Laboratory Practice in the Admission Process.

a. SF 510 - Nursing notes.

(1) The admission note, as recorded on SF 510, Nurses Notes, gives the nursing and medical staff valuable background information about the patient. It tells us how and why the patient was admitted, as well as how the patient looked and felt.

(2) The minimum information required is:

(a) Date, time.

(b) Manner of admission, i.e., wheel chair.

(c) Brief, clear description of symptoms and observations.

(d) Vital signs.

(e) Allergies.

(f) Time physician notified.

(g) Present needs and nursing diagnosis.

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(3) Look at the sample nurses notes--then complete the exercise on page 9.

b. During your laboratory practice you will complete the ward admission procedure including entries on the TPR board, SF 511, and SF 510. See page 2 item (e) for the ward admission procedures.

(1) Be sure to write patient identification data on all forms.

(2) Use the nursing arts laboratory as your ward when you orient your patient to his surroundings.

(3) Check with the nurse (instructor) for any treatments or orders to be started.

NOTES:

CLINICAL RECORD			NURSING NOTES (Sign all notes)
DATE	HOUR		OBSERVATIONS Include medication and treatment when indicated
	A.M.	P.M.	
13May	0915		40 yr old male admitted via wheelchair from E.R. by Dr. Wyman.
			Experienced sharp substernal chest pain about 0730, unrelieved
			by nitroglycerine. Has past history of angina. No complaint
			of pain at this time. Diaphoretic, pale, and slight shortness of
			breath. Very anxious. T 98^2 P 112 R 18 B/P 154/106.
			Ht 66" Wt 169# ALLERGIC: ERYTHROMYCIN
	0920		Dr. Smith notified of admission. ECG done. Placed on ECG monitor.
			O_2 @ 5 L/min via nasal cannula.
			M. A. Morning, Capt, USAF, NC
			NOTE: Information was typed in on this form for clarity.
			Nursing Notes are hand written in ink.

Continue on reverse side

PATIENT'S IDENTIFICATION (For typed or written entries give: Name - last, first, middle; grade; date; hospital or medical facility)

NOLAND, PATRICK B. 6A
Maj USAF
162284352
137659 MG USAF MC

REGISTER NO	WARD NO.
137659	6 A

NURSING NOTES
Standard Form 510
May 1969 (Rev.)
General Services Admin. &
Int. Agency Comm. on Med. Records
510-108

MSgt John J. Jones, 42 years old, admitted to Ward 4 W via wheelchair at 1010 hours. He was wheezing and short of breath. He brought an old chart and records with him. During the ward admission routine, the specialist noted that MSgt Jones was 5' 11", weighed 172 pounds, and had vital signs of 100° - 94 - 32 and 158/110. He had no wounds or scars and denied any allergies. He complained of a headache. Dr. Smith notified of admission of 1020 hours. The patient's new addressograph plate bore the hospital registration number of 723591.

CLINICAL RECORD | **NURSING NOTES**
(Sign all notes)

DATE	HOUR		OBSERVATIONS include medication and treatment when indicated
	A.M.	P.M.	

Continue on reverse side

PATIENT'S IDENTIFICATION *(For typed or written entries give: Name — last, first, middle; grade; date; hospital or medical facility)*

REGISTER NO.	WARD NO.

NURSING NOTES
Standard Form 510
May 1969 (Rev.)
General Services Admin. &
Int. Agency Comm. on Med. Records
510-108

3. Identify the responsibilities of the Medical Service Specialist in assisting with a physical examination.

A smooth and well organized physical examination will greatly aid the physician as well as assure that necessary patient care is efficiently initiated.

a. Care of the Area.

(1) Preparation. Whatever area is chosen should be clean, neat, and ready before the patient and/or the physician arrives.

(2) Specific Areas. (Choice of the area is up to the physician).

(a) Treatment Room. Most hospital nursing units have a treatment and examining area which is especially equipped for this purpose. It is usually preferred for hospitalized patients due to convenience and privacy.

(b) Clinic. Air Force clinics consist of a series of small treatment and examining rooms much like those you may have seen if you have visited a civilian doctor's office or clinic. They are used primarily for patients who do not need to be admitted to the hospital. Occasionally, hospital patients also report to one of the clinic areas for a specific type of examination such as Eye or ENT.

(c) Patient's Bedside. Least preferred, this area is used when no other area is available or when the patient is unable to be moved. An example would be a person who has multiple injuries.

(3) After Care of Area.

(a) Tidy the area so it can be used again as needed.

(b) Change the sheet or paper cover on the examination table.

(c) Empty waste containers if they have just been filled with a large amount of unsightly waste.

b. Care of the Equipment.

(1) Preparation.

(a) Check all items you anticipate using for cleanliness and good working condition.

(b) Place the equipment on a work table or tray within the doctor's reach.

(c) Cover the equipment with a towel or other drape if the patient is to be in the area for a few minutes before the examination begins. This will help decrease any possible anxiety he may have about what is going to occur. An example would be a speculum or a proctoscope--unwelcome sights to most people.

(2) Suggested Items for Routine Examinations.

(a) Ophthalmoscope--otoscope combination.

(b) Speculums.

(c) Stethoscope.

(d) Sphygmomanometer.

1 Aneroid, or

2 Mercurial--Most accurate and usually preferred by the physician.

(e) Percussion hammer.

(f) Rubber gloves--Usually disposable examination gloves are available.

(g) Water soluble lubricant--Used to lubricate examination gloves.

(h) Tongue depressors.

(i) Tissue wipes.

(j) Emesis basin.

(k) Sterile safety pin (or needle).

(l) Sheet for draping (towel also for female).

(m) Other items according to special need.

(3) After Care--Clean and return items to their normal place when examination is completed. You will find that regular frequent checking of equipment and supplies will assure their availability on short notice.

c. Care of the Patient.

(1) Preparation.

(a) Explain the procedure--what, where, who, etc.

(b) Take the patient to the determined area. Use a wheelchair or litter if indicated.

(c) Instruct the patient regarding the removal of clothing and supply necessary drapes.

1 Pull the curtain, step out and close the door if the patient is able to remove his own clothing.

2 Remain and assist him if necessary. Use care to avoid exposing the patient. (Cover area with drape before removing a garment).

3 Return to the patient when he has had time to prepare himself (3-5 min).

a Announce your presence verbally before opening the door or curtain.

b Position the patient on the examining table and make him as comfortable as possible. Usually the physician will want the patient to be in a sitting position when he begins the examination.

(d) Introduce the physician to the patient (if they haven't met).

NOTE: If the patient is female, a female staff member must act as a chaperone, assist the patient with final preparation and remain during the examination. When children are examined, a parent may be allowed to assist them. In an emergency where no females are available, a close female relative or a woman's husband may be accepted as a chaperone. Check with the physician as the legal risk is primarily his.

(2) After the Examination.

(a) Supply the patient with tissue wipes if he or she has had a rectal or a vaginal examination.

(b) Give privacy and/or assistance for replacing clothing, whichever is most appropriate.

(c) Assist the patient back to bed. Note that the patient may have become tired during the examination and need more help now than he did previously.

d. Assisting the Physician.

Your role in assisting the physician will vary. Some of the things which you may need to do are:

(1) Position the patient as needed.

(2) Hand the physician equipment.

(3) Obtain additional equipment or supplies if needed.

QUESTIONS

1. Name two types of hospital admissions.

2. How does a person who is ill obtain an Admission Authorization?

3. Where is the patient's identification bracelet usually prepared?

4. What would you usually do first for a routine admission when he arrives on your ward?

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5. What must be done with all chart forms at once before any notes may be added to them?

6. Patient locator cards are used in at least two places. Those places are:

7. Colored plastic tabs are used in the Kardex. Why should you not move them?

8. What important things should you remember about making appointments?

a.

b.

c.

9. What is the administrative section called which processes paper work for any active duty personnel who wish to go on pass or leave before they are ready for hospital discharge?

10. When transferring a patient from one ward to another, who must agree to this transfer in addition to the physician from each ward?

11. What might happen if you do not also obtain the approval of these other people when you transfer a patient?

12. How will you know in which order the chart sheets should be placed when the patient is discharged?

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13. Where is the patient's first stop after the ward when he starts to clear the hospital?

14. Which area is usually preferred for examination of hospitalized patients?

15. Responsibilities of the Medical Service Specialist related to areas where examinations are performed are:

Before the exam:

After the exam:

16. What should you do to prepare equipment for a physical examination (three things)?

17. Simply state four things vital to the preparation of a patient for an examination.

18. Name three things you should do for the patient after an examination.

19. Assisting the physician during a physical examination may include such things as: (Can you name three)?

20. Due to ethical standards of our society and possible legal problems, who should be present when a female patient is examined?

REFERENCES

1. AFM 160-34, Medical Airman's Manual, para 4-10 and 4-11

NOTE: Because of recent changes in Air Force forms, the name and number of some of the forms mentioned in the study reference have been changed. The correct forms will be identified in class and in this study guide and workbook.

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STUDY GUIDE AND WORKBOOK

3ABR90230-I-9

Technical Training

Medical Service Specialist

HOSPITAL AND ENVIRONMENTAL SAFETY

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-I-9
November 1975

HOSPITAL AND ENVIRONMENTAL SAFETY

OBJECTIVE

1. Select basic facts and principles related to maintaining a safe patient environment.

2. Choose correct hospital procedures for preventing hospital sepsis.

INTRODUCTION

Hospital safety is an extensive subject which we will never completely exhaust. A good safety program covers many areas and is promoted for numerous reasons, but in each case pays large dividends to all who are involved. For the patient , hospital safety provides freedom from fear of injury; for the visitor, it promises a safe environment for him to enter; for the worker, it means that someone really cares about him and his welfare; and for the administrator (or Hospital Commander), it means reasonable protection from lawsuit.

This lesson has been developed to provide you with an overview of hospital safety. Additional specific safety practices will be included in later portions of the course as they relate to each procedure.

Use the spaces provided to take notes during class. Use your notes for reference to complete the review questions.

INFORMATION

THE ACCIDENT AND FIRE CONTROL PROGRAM

A hospital's responsibilities are especially acute; it not only employs workers, it cares for patients, it is responsible for the visiting public and like many industries, it faces the problem or vehicle control.

a. The accident and control program is a job of management. The hospital administrator must undertake an organized and consistent attack on his accident and fire hazards in all locations and at all levels.

b. Principles of Accident Prevention:

(1) Every job involves hazards which if not put under control can cause injury, illness, or death.

(2) Every injury cost money:

(a) Direct Cost -

This supersedes SW 3ABR90230-I-9, June 1975.

(b) Indirect Cost -

(3) The patient as a causative factor - accidents are due to interactions of patients, personnel, or visitors with an agent and the environment.

(a) The patients are exposed to invasion by accidents from the time they enter the hospital until the time they leave.

1 Accidents by age groups

a Young - from birth to 9 years

b Teenages

c The aged

(b) Accidents by Occupation: Males statistically have more accidents than females due to high risk jobs and attempt at maintaining their independence while in the hospital.

(c) Accidents by Diagnosis

(4) The active force or substance as a cause of accidents.

(a) Falls - The predominant cause of most hospital accidents.

1

2

3

4

5

6

7

8

9

10

(b) Wheelchairs and Stretchers

1

2

3

4

5

6

(c) Medication errors most frequently occur from confusion and haste. Follow the rules and no error will occur. If they do, report the error immediatley upon discovery.

(d) Burns occur frequently on patients also due to the low resistance and often nerve damaged patients. You will be studying the effects of heat and cold later in the course.

General Rules:

1

2

3

4

(e) Smoking and non-smoking areas must be prominently designated by warning signs.

(f) Fires require a plan of prevention and expected behavior in the event of fire, that is enforced and practiced throughout the hospital to minimize accidents involving fire.

(g) Equipment - There are several Air Force programs to insure safe use and maintenance of equipment. Personnel will have OJT and adequate supervision in the use and care of equipment.

1

2

3

4

5

6

(h) Cuts and punctures occur frequently to ward staff due to large numbers of sharp objects around.

1

2

(i) Personnel - The attitudes of personnel toward personal and hospital safety plays an immense role in deciding the incidence of accidents in hospitals. Personnel can be agents inflicting injury on the patients and other personnel in any of the previous listed areas.

(5) The Environment - The conditions in the surrounding hospital that affects the patient and personnel.

(a) Most accidents involving patients occur in their rooms, within ten feet of their beds and the majority of which are in semi-private rooms.

(b) Educate the patient

(c) Orientation of the patient

c. Choose the correct hospital procedures for preventing hospital sepsis.

(1) The Veterinary Department and Military Public Health have over all reponsibility for sanitation in Air Force facilities, but standards are set within individual departments of the hospital.

(a) Hospital Units

(b) Food Service Department

(c) Operating Room, Delivery Room, and Central Supply

(d) Laundry Personnel

(e) Housekeeping

(6) Dispose of trash

(a)

(b)

QUESTIONS

1. Name four things you can do to minimize fires caused by electricity.

2. Name five things you can do to prevent fires from being caused by smoking and matches.

3. What is an important consideration when storing alcohol or ether?

4. What should you know about procedures used in case of fire?

5. What should you do if you accidentally spilled some water on the floor in the hallway?

6. What should you do when you see that a screw or bolt has come off from a piece of equipment?

7. How might you obtain a possible fatal shock from an ungrounded piece of equipment?

8. Name several things which you can do to prevent patients from falling out of bed.

9. You can avoid cuts and skin punctures by... (Name six things.)

Attachment 1

CONFIRMATION OF REVIEW QUESTIONS

1. Name four things you may do to minimize fires caused by electricity.

a) Follow operating instructions which are attached permanently to all equipment.

b) Check before and after each use of therapeutic equipment.

c) All units participate in the preventive maintenance program

d) Periodic checks of electrical equipment by an electrician is made.

e) Periodic checks of all emergency equipment is made to insure their "ready to go" status.

f) Turn in damaged or worn out equipment.

2. Name five things you may do to prevent fires from being caused by smoking and matches.

a) Smoking areas must be prominently designated by warning signs.

b) Precautions to patients should be explained in depth.

c) The use of large ashtrays.

d) Cautions against smoking in bed, especially at night.

e) Instruct visitors as to patients' state in regard to smoking.

3. DELETE

4. What should you know about procedures used in case of fire?

Fires require a plan of prevention and expected behavior in the event of a fire, that is enforced and practiced throughout the hospital to minimize accidents involving fires.

5. What should you do if you accidently spilled some water on the floor in the hallway?

Physical facilities, such as rooms, halls, stairways must be scrupulously kept free of water. Also wet floor signs will be posted.

6. What should you do when you see that a screw or bolt has come off from a piece of equipment?

Broken items, though appearing useful may be hazardous. Replace or have them repaired.

7. DELETE

8. Name several things which you can do to prevent patients from falling out of bed?

a) Each patient must be assessed separate and appropriate measures decided upon for that patient.

b) Keep personal items within easy reach of patient.

c) The use of footstools properly positioned for high beds is necessary for safety.

d) Proper orientation to include explanations of the patient's limitations.

e) Early ambulation with stress on the absolute necessity for assistance.

f) Close observation of patients that are in a state of mental alteration.

g) Proper shoes should be worn where ambulating for proper support.

h) Limbering exercises prior to ambulating.

i) The patient's area as well as halls should be free of any obstacles.

j) As the patient's condition progresses, his limitation should be further explained.

9. You can avoid cuts and skin punctures by .....(name six things)

a) If an object falls, do not attempt to catch it.

b) Be sure items like scalpel blades, razors are wrapped or otherwise protected before disposal.

c) Be attentive when operating machines.

d) Use the proper tool for the job, scissors for cutting tape, etc, screw driver for screws, scalpel for surgical work.

e) Broken items, though appearing useful may be hazardous. Replace or have them repaired.

f) Never reach into a hazardous area without inspecting it closely first i.e. trash cans.

g) Personnel with open cuts or punctures should have them treated immediatly, as well as protection against infection.

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STUDY GUIDE AND WORKBOOK

3ABR90230-I-10

Technical Training

Medical Service Specialist

LIFTING AND MOVING

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
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SW 3ABR90230-I-10
November 1975

LIFTING AND MOVING

OBJECTIVE

With instructor guidance demonstrate the ability to correctly and safely lift and move a helpless patient.

INTRODUCTION

If you have watched a weight lifting event on T.V., you might have seen a weight lifter who weighs 250 pounds lift 900 pounds over his head.

The reason he could do this was that he was trained for it. One of our duties in the hospital will be lifting and moving patients. Although we do not have to achieve the same spectacular feat as the weightlifter, we too must be trained for some special weight lifting procedures. In order to insure our safety and the patients' safety and comfort, we must know how to apply the principles of lifting and moving to our hospital duties. It is only one part of total patient care, but if done carelessly, it can cause injury and pain to the patient and to you. It is your responsibility to perform these procedures carefully and correctly. Treat the patient as you would want to be treated yourself.

In the laboratory you will perform lifting and moving procedures. Study each procedure in the SW and be prepared to demonstrate them in the laboratory. You will be graded on your performance.

Read AFM 160-34, Para 4-14, Body Mechanics; Para 4-15, Positions and Services for the Patients Comfort.

This supersedes SW 3ABR90230-I-10, June 1975.

INFORMATION

1. Identify principles of good body mechanics.

a. Posture is the relationship of body parts, at rest or in motion. Correct posture is necessary to avoid fatigue to the specialist or the patient. It also helps to give the patient confidence in the specialist; slouchy posture on your part gives the patient a bad impression of you.

b. Body Alignment is the positioning of the body in proper anatomical alignment so as to avoid stress or strain on any part of the patient's body. This positioning is important for the patient's comfort, his attitude toward his illness, and his general dispositions.

c. Body Mechanics refer to the various ways in which the body and its parts function in coordination while you are standing or moving or doing any type of strenuous exercise. The way you use your arms and legs and the muscles of your body to accomplish the various positioning procedures is the essential meaning of body mechanics. Principles of body mechanics include the following.

(1) WHENEVER POSSIBLE, SLIDE, PUSH, OR ROLL A HEAVY OBJECT (OR PATIENT) RATHER THAN LIFTING IT. Sliding requires less effort on your part and will cause less strain on the patient. It is also a much safer method of moving a patient.

(2) ALWAYS MAINTAIN A WIDE BASE OF SUPPORT. This will help you keep your balance during a lifting or moving procedure, avoid muscle strain, and allow you to to maintain a safe hold on your patient. Just as a pyramid is the most stable geometric figure because of its large base, a wide base of support provides you with the most stable stance.

(3) BEND THE KNEES TO LOWER YOUR BODY TO THE LEVEL AT WHICH YOU ARE WORKING. This will keep your back straight and avoid strain, making the longer and stronger muscles of your legs "carry the load." Don't overwork your back and hurt yourself; let your legs do most of the work.

(4) USE MECHANICAL AIDS WHENEVER POSSIBLE. This will avoid causing injury to the patient or yourself due to your inability to handle the situation by yourself. Examples of mechanical devices are drawsheets, litters, wheelchairs, hoists, and the bed cranks used to raise the foot or head of the patients bed. These are devices which save your time and energy; use them.

(5) USE AS MANY MUSCLES OR GROUPS OF MUSCLES WHEN LIFTING OR MOVING. This will distribute the workload over your body and cause you and the patient less fatigue. It will also lessen the possibility of injuring yourself or the patient.

(6) USE YOUR OWN WEIGHT WHEN MOVING A PATIENT. By using your weight as a counter balance for leverage, you will expend less energy, thereby, avoiding unnecessary stress and strain. If you find that even by using your weight and muscles you are unable to move the patient safely and adequately because of his weight, then get help. Don't be foolish and hurt yourself needlessly.

2. Identify selected procedures for lifting and moving a patient. The following procedures will be demonstrated to you in the classroom.

a. Positioning a patient in a bed.

(1) Moving a patient up in a bed:

Many times a patient will slide down in the bed to an uncomfortable position when the head of the bed is raised. He will require assistance in repositioning himself

Procedure

(a) Explain the procedure; tell him what you want to do and how you will accomplish the procedure.

(b) Lower the head of the bed if it is raised and if the patient can tolerate the position.

(c) Place the pillow against the head of the bed to protect the patient's head.

(d) Fold the patient's arms across his chest and place his feet flat on the bed so he will be able to assist you in the move.

(e) Place one hand under the patient's neck and shoulder, and one hand under the small of his back. Make sure you are supporting him well.

(f) Stand with your feet parallel to the bed with one foot in front of the other to provide a wide base of support.

(g) Tell the patient when you want him to push with his feet, but don't rush him, give him plenty of time.

(h) While the patient is pushing, slide him, and guide him up in the bed. It may take more than one move so act accordingly. Remember, you don't want to hurt the patient.

(i) Replace the pillow and realign the patient. Ask him if he is comfortable. Try to anticipate and meet his needs.

(j) If the patient is heavy, get help; don't strain yourself.

(2) Moving a patient to the side of the bed:

Procedure

(a) Explain the procedure to the patient. Let him know what you are going to do.

(b) Remove the pillow.

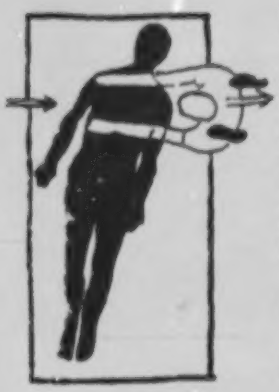
(c) Place one hand under the patient's shoulders and the other under the small of the patient's back. His weight rests on your arms.

(d) Brace one knee against the bed frame. Step back, using your weight to slide the upper torso to your side of the bed.

(e) Place one arm under the small of the back and the other under the thighs. Step back and slide the hips across the bed.

(f) Place one hand under the thighs and the other under the lower legs. Step back, slide the lower legs and feet to your side of the bed.

(g) Realign the patient and insure his comfort.



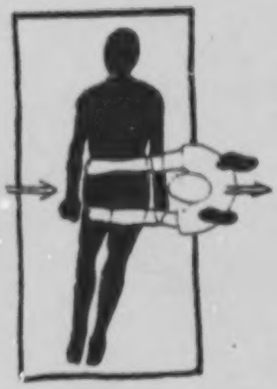
Slide your hands under patient's back to far shoulder.

Slide his shoulders toward you on your arms.

Keep your feet in line with the direction of motion.

Flex your knees.

Keep your back as straight as possible.



Slide your hands under patient's hips as far as you can.

Slide him toward you on your arms.

Move legs in same manner.

MOVING A PATIENT TO THE SIDE OF THE BED

(3) Positioning a patient on his side.

There are times when, for the patient's safety and comfort, it is necessary to place him on his side in the bed. Pressure on prominent areas of the body may impair circulation and eventual tissue damage. This break down of tissue is called decubitus ulcer which, once started, is very difficult to cure. You will also move the patient onto his side during a bed bath and when giving back care.

Procedure

(a) Explain the procedure. Tell the patient what you want him to do.

(b) Move the pillow to a convenient place.

(c) Extend the patient's near arm over his head so he will not roll on it during the move. Place his far arm across his chest or abdomen.

(d) Cross the near leg over the far leg. This will prevent injury to the patient's toes and feet.

(e) Firmly hold the patient's shoulder and hip. Avoid holding or pulling only on his pajamas as they may tear causing you to lose control of his body.

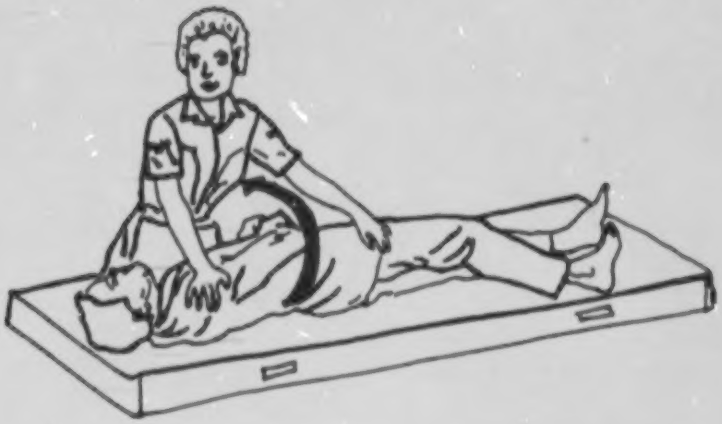
(f) Position your feet perpendicular to the bed, with a wide base of support with one knee braced against the bed frame. Step back, using your weight to help roll the patient toward you.

(g) Have the patient support himself with his far arm if he is able.

(h) Flex his knees slightly, especially the upper leg. Support the patient by placing pillows behind his back, under his head, between the legs to prevent pressure on the knees, and one under the top arm for added comfort.

(i) Move the patient's weight off his lower shoulder to avoid restricting circulation.

(i) Move the bedside stand within the patient's easy reach. This allows him to reach some of the things he needs and allows him to call for assistance if needed.



TURNING A PATIENT TO HIS SIDE

(4) Assisting a patient to dangle.

Dangling the patient's legs over the side of the bed while he sits on the side of the bed is usually the first step in progressive ambulation of the patient. The doctor will order this procedure as "dangling" for a specific time period and we will assist the patient in the following procedure.

(a) Explain the procedure. Tell him what he is to do and how.

(b) Remove the pillow.

(c) Raise the head of the bed approximately 45 degrees. When raising the bed, do not bend at the waist, squat, bending at the knee, using your arm and shoulder muscles to crank the bed. Remember to return the crank to the down position.

(d) Place on hand under his thighs and one hand behind the shoulder to support the patient during the move.

(e) Place your feet with one foot behind the other, assuming a wide base of support.

(f) Bending at the knees and waist and with one knee braced against the bed frame, pivot the patient on his buttocks so his legs dangle over the edge of the bed.

(g) Support the patient's feet on a footstool or a chair.

(h) Place an over bed table in front of the patient to support his arms and to help make him comfortable and relaxed.

(i) Remain with the patient and observe him for signs of faintness, dizziness, or fatigue. If problems occur, return the patient to bed and report his trouble to the nurse.

b. Moving a patient from a bed to a chair or wheelchair.

The second stage in progressive ambulation is sitting in a chair for increasing periods of time. This is an important event for the patient who has spent a great deal of time in bed. He will probably be anxious to comply with doctor's orders, but you will have to temper his eagerness with safety. Handle him carefully.

Procedure

(1) This procedure starts from the dangling position previously discussed. Refer to it if you are unsure of the procedure.

(2) Place the footstool under the patient's foot farthest from the chair. Make sure his slippers are on his feet before he stands up.

(3) Position the chair or the wheelchair parallel to the bed with the chair back braced firmly against a wall or bedside stand. This will keep the chair from sliding away from the patient.

(4) Stand in front of the patient, feet perpendicular to the bed, with a wide base of support.

(5) Place the patient's hands on your shoulders and your hands on the patient's sides.

(6) Carefully assist the patient to the floor.

(7) Pivot the patient so he has his back to the chair and allow him to see the chair so he knows where it is placed.

(8) As you ease the patient into the chair, keep your back straight and use your weight as a counter balance against his. Bend at the knees as you lower the patient.

(9) If you are putting him in a wheelchair, put the footrests down and position the patient's feet on them.

(10) Ask the patient if he is comfortable and observe him for any difficulties.

c. Moving a patient from a bed to a litter.

Frequently, as with unconscious, paralyzed, or anesthetized patients, you'll be required to move a patient from a bed to a litter. This is a difficult procedure requiring six specialists and extreme caution must be used to insure that the patient's safety is not jeopardized.

Procedure

(1) Explain the procedure, even when the patient is unconscious.

(2) Remove the pillow.

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(3) Place a drawsheet under the patient so the weight of his hips, shoulders and head are resting on the sheet.

(4) Roll the drawsheet to the patient's side on both sides.

(5) The specialist at the patient's head in the direction of the move directs the procedure.

(6) At the "ready, move" signal all six specialist slide the patient to the edge of the bed.

(7) Since the patient is now close to the mattress edge, use the edge of the drawsheet, wrap it over the patient to prevent him from falling off the bed. The specialists on litter side bring the litter up next to the bed.

(8) Roll the drawsheet back against the patient's side.

(9) Move the patient, on command, from the bed to the litter.

(10) Make the patient comfortable and cover him with the sheet on the litter.

(11) Secure a litter strap around the patient abdomen or place the bed rails in an up position.

The procedures you have just read are important for the safety of you and your patient and should not be taken lightly. They are an important part of total nursing care and should be practiced with care; think "safety."

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REVIEW EXERCISE

1. Define the following terms in your own words:

   a. Posture

   b. Body Alignment

   c. Body Mechanics

2. What are the advantages of sliding, pushing and rolling?

3. What is the purpose for maintaining a wide base of support?

4. Questions #2 and #3 referred to two principles of body mechanics. Can you think of four more?

5. What is the implied thought behind the principles in this section?

6. What is the purpose for bending at the knees rather than at the waist?

STUDY GUIDE AND WORKBOOK
3ABR90230-I-11

Technical Training

Medical Service Specialist

INTAKE AND OUTPUT PROCEDURES

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-I-11
November 1975

INTAKE AND OUTPUT PROCEDURES

OBJECTIVE

Select basic facts and principles related to intake and output procedures.

INTRODUCTION

Many times it is essential to maintain an accurate record of the intake and output of fluids by the patient. The record is kept for a 24-hour period. This SWB has been designed to help you understand the procedure for maintaining intake and output records. We have included a variety of forms that you may see used in your assigned hospital. Regardless of the form used - the concept is the same - accurately measure and record the amount of liquid taken in and excreated by the patient.

Instructions

1. Read AFM 160-34, para 4-25, Maintaining Fluid Balance Records.
2. Take notes during class.
3. You will complete one I and O Form during class.
4. Following class answer review questions.

INFORMATION

1. Basic facts and principles related to intake and output procedures.

   a. Definition of intake and output.

   b. Ways the body eliminates waste.

      (1) Skin

      (2) Lungs

This supersedes SW 3ABR90230-I-11, June 1975.

(3) Bladder

(4) Intestines

(a)

(b)

c. Procedures for Intake

(1)

(a)

(b)

(2)

(3)

(a)

(b)

d. Procedures for Output

(1)

(2)

(3)

(4)

(5)

EXERCISE

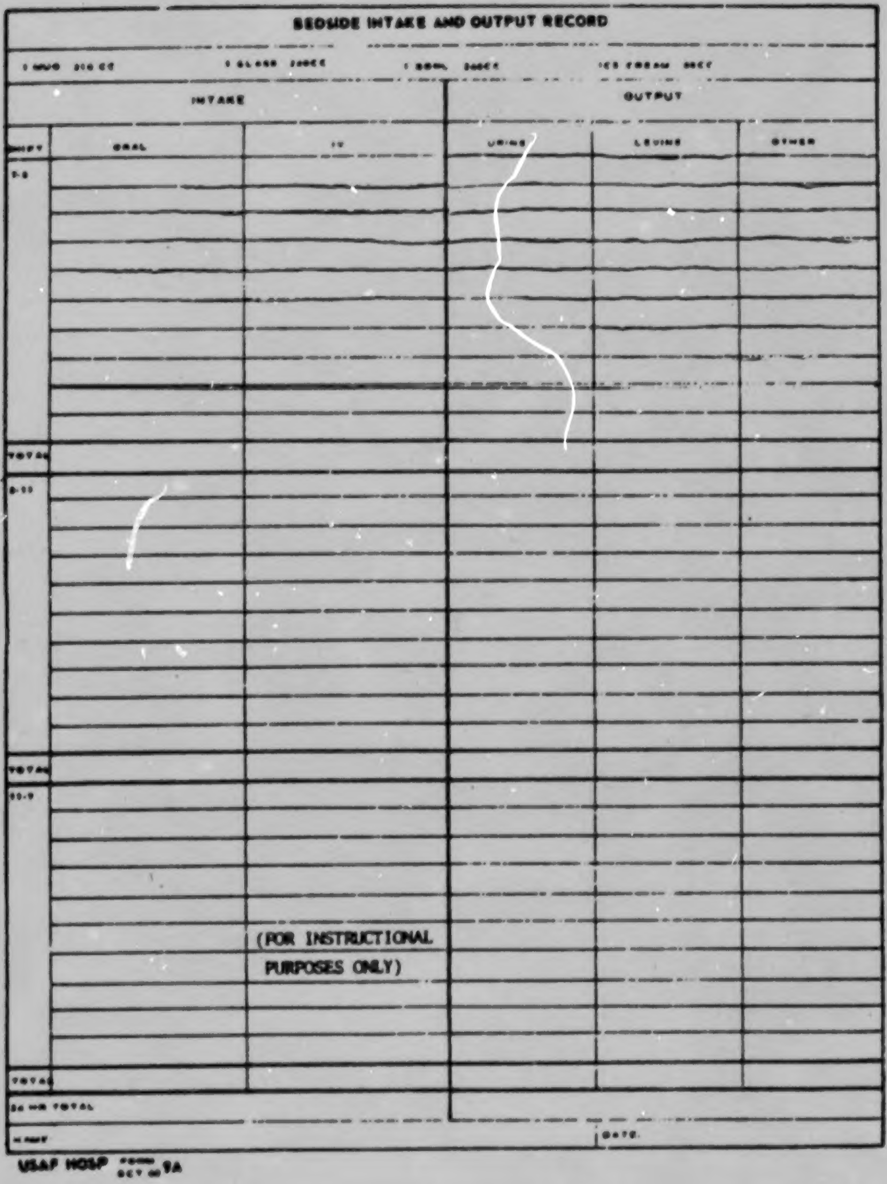
Complete the USAF Form 9A using the following information.

1. Patient's name and date
2. Oral fluids
3. IV fluids (each bottle of IV fluid contains 1000cc)
4. Output
5. Shift totals

Use the following information to complete the Form 9A in your workbook. The following is a hypothetical case study of a patient. Read it carefully and record his intake and output on the Form 9A.

Sgt Jones was admitted to the hospital with a diagnosis of nephritis. On the third day of hospitalization a nephrectomy (surgical removal of a kidney) was performed. He was returned to the ward at 0900 hours and Intake and Output recording was begun. He had an IV infusion in place that was begun at 0700 hours in surgery. The patient had been catheterized and at present had 300cc of urine in his drainage bag. At 1000 hours his IV was fully infused and a second bottle was hung. At 1200 hours he had 1 cup of coffee and a bowl of broth. His urine drainage bag was emptied at 1430 hours and measured 400cc. At 1430 hours he had 300cc of fluid left in his IV bottle. At 1700 hours he had a bowl of broth, 2 cups of coffee, and 4 ounces of Seven-Up. His IV was completed and discontinued at 1900 hours. At 2230 hours he had a firm brown stool (bowel movement). At 2230 hours his urine drainage bag was emptied and measured 750cc. At 0500 hours patient had 8-ounce glass of fruit juice. At 0700 hours shift totals and 24-hour totals were made.

SAMPLE I AND O SHEET



BEDSIDE INTAKE AND OUTPUT RECORD					
1 MUG 210 CC	1 GLASS 240CC	1 BOWL 240CC	ICE CREAM 90CC		
INTAKE			OUTPUT		
SHIFT	ORAL	IV	URINE	LEVINE	OTHER
7-3					
TOTAL					
3-11					
TOTAL					
11-7					
		(FOR INSTRUCTIONAL			
		PURPOSES ONLY)			
TOTAL					
24 HR TOTAL					
NAME				DATE:	

USAF HOSP FORM OCT 60 9A

NURSING SERVICE - TWENTY-FOUR HOUR PATIENT INTAKE AND OUTPUT WORKSHEET

*INTAKE EQUIVALENTS (Serving levels cc)

MEDICINE GLASS (1 oz.)	30	HALF PINT MILK	240
SMALL FRUIT CUP	120	LARGE SOUP BOWL	240
COFFEE CUP	120	LARGE WATER GLASS	240
LARGE COFFEE MUG	180	CHINA PITCHER	480

DATE 15 JANUARY 1974

FROM 2400 HOURS TO 2400 HOURS

TOTAL NUMBER HOURS COVERED 24 HRS

INTAKE*

HOUR	BY MOUTH State type of fluid & if by tube add (T)	AMOUNT (cc)
0400	WATER	180
0600	WATER	180
0700	COFFEE	120
0700	BROTH	120
	0800 TOTAL	600

(FOR INSTRUCTIONAL PURPOSES ONLY)

INTRAVENOUS, SUBCUTANEOUS, CLYSIS (Specify)

0001	IV started 5% DW	
	0800 TOTAL	800

GRAND TOTAL INTAKE (cc)

OUTPUT

HOUR	URINE If by catheter add (C)	AMOUNT (cc)
0800	drainage bag (c)	650

DRAINAGE

EMESIS

STOOLS (Character, color)

GRAND TOTAL OUTPUT (cc)

JONES, ANDREW P. TSgt
429-38-7611
Register #74196
Ward 3 South
USAF Regional Hospital
Sheppard AFB, TX

INSTRUCTIONS

Space is left is for mechanical imprinting, if used. If typed or handwritten, enter the following:

PATIENT'S LAST NAME, FIRST NAME, MIDDLE NAME;
REGISTER NUMBER; WARD NUMBER;
NAME OF HOSPITAL OR OTHER MEDICAL FACILITY.

DD FORM 1 SEP 59 792

SAMPLE

U. S. GOVERNMENT PRINTING OFFICE 1967 O—[illegible]
GPO 974-763

285

DATA RECORD

	INTAKE		OUTPUT		
	ORAL	I.V	URINE	LEVINE	OTHER
Shift 7-3					
TOTAL					
Shift 3-11					
TOTAL					
Shift 11-7					
TOTAL					
24 hr TOTAL					

NAME Sample Mentioned in AFM 160-34

QUESTIONS

1. How will you determine the specific amount in cc of intake and output to record on the I & O records?

2. What are the four ways the body eliminates waste?

CONFIRMATION TO QUESTIONS

1. By checking hospital routine for size and amount dish holds or measure amount.
2. Skin, lungs, bladder, and intestines.

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

STUDY GUIDE AND WORKBOOK 3ABR90230-I-12
June 1975

MEDICAL MATERIEL PROCEDURES

OBJECTIVES

Select basic facts and principles related to Medical Materiel Procedures.

INTRODUCTION

As a member of the USAF medical team, you will be required to account for various items of AF supplies, medical, and non-medical. You, the medic, need to know how to account or handle AF medical and non-medical supplies. The responsibility for custodianship of supplies and equipment belongs to each member of the AF. With shortages of medical supplies forever staring at you in each phase of your work, and with a patient's life hanging in the balance, you can't afford to waste our supplies.

INFORMATION

In a medical facility the origin of all supplies and equipment, both Air Force and Medical, is Medical Materiel. All sections order their supplies from this point. Medical items are divided into three groups--medical supplies, medical equipment, and control expendable. Items which are expendable, that is easily broken or consumed in use are those items such as thermometers, drugs, and dressings. These are classified as medical supplies. Medical equipment is nonexpendable and must be accounted for. Examples would be hospital bed, operating beds, and x-ray machines. Control expendable items are not very expensive, but still have to be accountable. Sphygmomanometers, otoscopes, and cotton blankets are control expendables.

Air Force items are divided into two groups, A.F. supplies and A.F. equipment. Supplies are expendable; examples would be envelopes, letterhead paper, carbon paper, erasers, pencils, and all janitorial supplies. Air Force equipment is nonexpendable, durable, costly, and must be accounted for. Typewriter, desks, and office chairs fall into this category.

Although Medical Materiel is the origin of all supplies and equipment, there are several sections in the hospital that are designed to dispense many of these items. These sections are specialized in specific functions and make it easy for hospital personnel to obtain needed articles easily and quickly. These sections are Pharmacy, Central Nursing Supply, and Linen Control.

Pharmacy has the responsibility of filling all prescriptions signed by a military physician, those signed by a civilian physician with approval of hospital commander, and dispense all drugs except those of local purchase origin. This is where you will pick up routine drugs and solutions for your sections, such as alcohol, phisohex, and zephiran.

The Linen Control Department will handle all hospital linen, such as sheets, pajamas, and bath towels. They arrange for the laundering of soiled linen. They repair and dispose of torn linen. Depending on the hospital policy, they may provide a pickup and delivery service to the hospital wards and clinics. Linen control has the responsibility of maintaining whites for hospital personnel.

Central Nursing Supply has all the sterile items which are required in a medical facility. Some examples of these items would be syringes, needles, instrument packs, and intravenous fluids. Some nonsterile items will also be kept here, such as oxygen tents, vaporizers, iron lungs, and suction machines.

This supersedes SW 3ABR90230-I-3, May 1975

Local Purchase

Occasionally a facility will need an emergency item not routinely stocked by Medical Materiel. In the event this happens supply can purchase this item locally. These local purchase items are defined as those items that are needed to preserve life or prevent suffering.

Property Responsibility

The safeguarding and proper use of property and supplies is the responsibility of all Air Force military and civilian personnel. This responsibility is divided into three major categories: command responsibility, supervisory responsibility, and custodial responsibility. Throughout your career in the Air Force you will be using Air Force property and supplies, which means you will be responsible for its proper use. Misuses can result in pecuniary action against you which can result in your bearing the cost of repair or replacement of damaged or lost supplies.

Duties of the Property Custodian

A property custodian is normally assigned to each using activity or unit of a hospital. The property custodian is designated by the Director of Base Medical Facilities. The property custodian is responsible for:

a. Maintaining custody, care, and safekeeping of property in his possession, under his supervision, or charged to his activity.

b. Establishing supply schedules in coordination with the base medical supply officer to insure effective supply support for his activity.

c. Preparing and submitting issue requests to the base medical supply officer and the Medical Equipment Management Office (MEMO).

d. Accomplishing or assisting in periodic inventories of medical and nonmedical property as directed by the base medical supply officer, organizational commander or higher authority.

e. Maintaining property records for equipment items and other items that require accountability.

f. Insuring that personnel assigned to an activity are aware of their responsibilities for the proper use, conservation, protection, and maintenance of materiel.

Use of Supply Catalogues

The General Service Administration (GSA) and Federal Supply Catalogues are used to order most supplies and equipment. These catalogues contain the stock numbers, item descriptions, and unit costs of all material stored in government depots. Items are indexed alphabetically and numerically to aid the user in ordering supplies.

Issue and Turn In of Supplies - AF Form 1517

Most supply accounts are now mechanized. For all practical purposes, AF Form 1517, Base Issue/Turn-In Card, is all that is necessary to order expendable supplies. Turn to page 3 for an example of the form.

Rapid Supply System

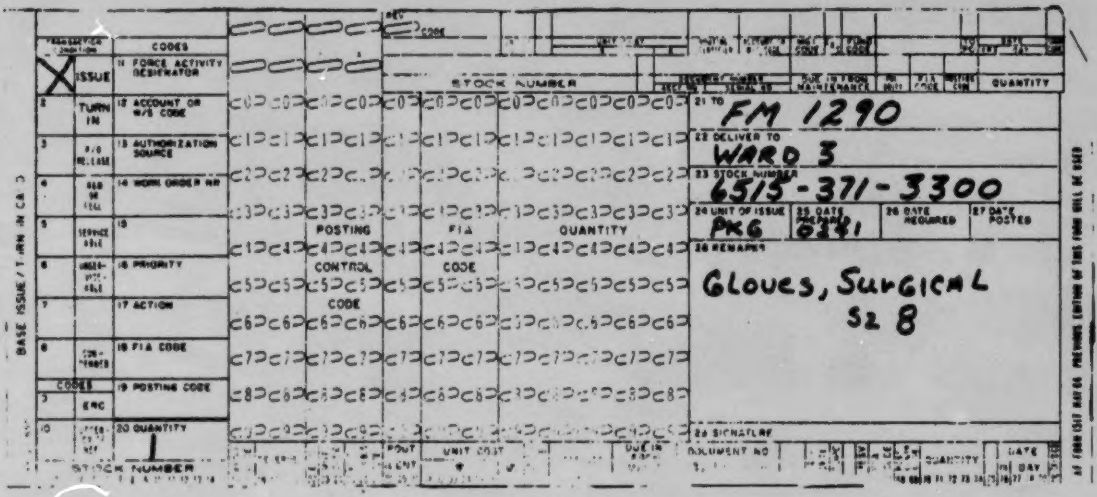
The rapid supply system allows property custodians to order routine expendable supplies by telephone from a monthly shopping list. Resulting in prompt supply action and eliminates preparation of Issue Request.

AF Form 601b

The AF Form 601b is used to order large non-expendable equipment items and items that require written justification.

Back Orders

Requested items that are not available in medical supply will be back ordered and issued as soon as the item is available in supply.



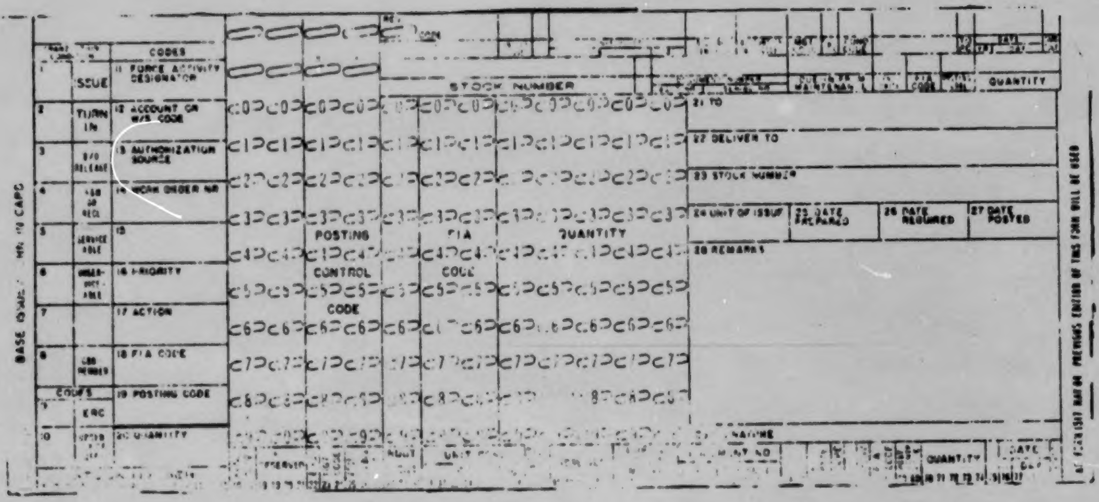
BASE ISSUE / TURN-IN CARD

☒ ISSUE
TURN IN
11 FORCE ACTIVITY DESIGNATOR
12 ACCOUNT OR W/S CODE
13 AUTHORIZATION SOURCE
14 WORK ORDER NR
16 PRIORITY
17 ACTION
18 FIA CODE
19 POSTING CODE
20 QUANTITY 1
STOCK NUMBER
POSTING CONTROL CODE
FIA CODE
QUANTITY
21 TO FM 1290
22 DELIVER TO WARD 3
23 STOCK NUMBER 6515-371-3300
24 UNIT OF ISSUE PKG
25 DATE PREPARED 0241
26 DATE REQUIRED
27 DATE POSTED
28 REMARKS Gloves, Surgical Sz 8
29 SIGNATURE

EXAMPLE 1

INFORMATION REQUIRED TO COMPLETE AF FORM 1517, BASE ISSUE/TURN-IN CARD (EXAMPLE 1)

1. Place an x in block 1 or 2 to indicate type of transaction.
2. Indicate quantity of items in block 20.
3. Indicate supply account number in block 21. Each Medical or Base Supply has its own account number.
4. Indicate the requesting unit and account number in block 22. Each unit is assigned an account number by Base Supply for accounting purposes. (Ex, ward 4-E or 5-A)
5. Indicate the Federal Stock Numbers for the item in block 23. (Ex, 6510-013-4441)
6. Indicate the unit of issue in block 24. (Ex, box, pkg, ea.)
7. Indicate date card prepared in block 25. (Use Julian date)
8. Describe item as listed in supply catalog. (Ex, Gauze, Roller, 1")



EXAMPLE 2

COMPLETE EXAMPLE 2 USING THE INFORMATION GIVEN BELOW

Sgt Jones wishes to request 24 rolls of 1" adhesive tape. The tape comes packaged 24 rolls to a box. Sgt Jones is ordering the supplies for the hospital emergency room, account 51A, from the Base Medical Supply account number FM 4169. The Federal Supply Catalogue gives the stock number for the item as 6510-890-1372, adhesive tape, surgical, 1" X 10 yds.

Cleaning and Maintenance of Diagnostic and Therapeutic Equipment

The user or operator of diagnostic and therapeutic equipment is responsible for cleaning and keeping clean all equipment they use. Maintenance other than day to day minor maintenance will be accomplished by Medical Equipment Repair or the Manufacturer.

QUESTIONS

Routine

1. Expendable property may be ordered by

   a. a telephone request to the hospital commander.
   b. issuing a custodian request/receipt form.
   c. preparing a 601b.
   d. the rapid supply system.

2. The responsibility for Air Force property is assumed by

   a. the medical officer.
   b. the base commander.
   c. the hospital commander.
   d. all government employees and military personnel.

3. Establishing supply schedules with the Base Medical Supply Officer is the duty of the

   a. chief nurse.
   b. medical officer.
   c. property custodian.
   d. user.

4. Which of the following items are not required when completing an Air Force Form 1517, Base Issue/Turn In card. Check the items selected.

____a. Cost of item.
____b. Date required.
____c. Date requested.
____d. Amount.
____e. Stock number.
____f. Description of item.
____g. Custodian signature.
____h. Requesting unit.
____i. Commander's signature.
____j. Manufacturer's names.

5. The day to day cleaning and maintenance of diagnostic and therapeutic equipment is the responsibility of the

   a. custodian of equipment.
   b. user or operator.
   c. medical service specialist.
   d. medical equipment repairman.

REFERENCES

AFM 160-34, Medical Airman's Manual, para 5-12
AFM 168-4, Administration of Medical Activities, Chapter 9.

ATC-SHEPPARD AFB TEX. 76-1919

HANDOUT

3ABR90230-I-6

Technical Training

10-10
Block I

Medical Service Specialist

ANATOMICAL DRAWINGS

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

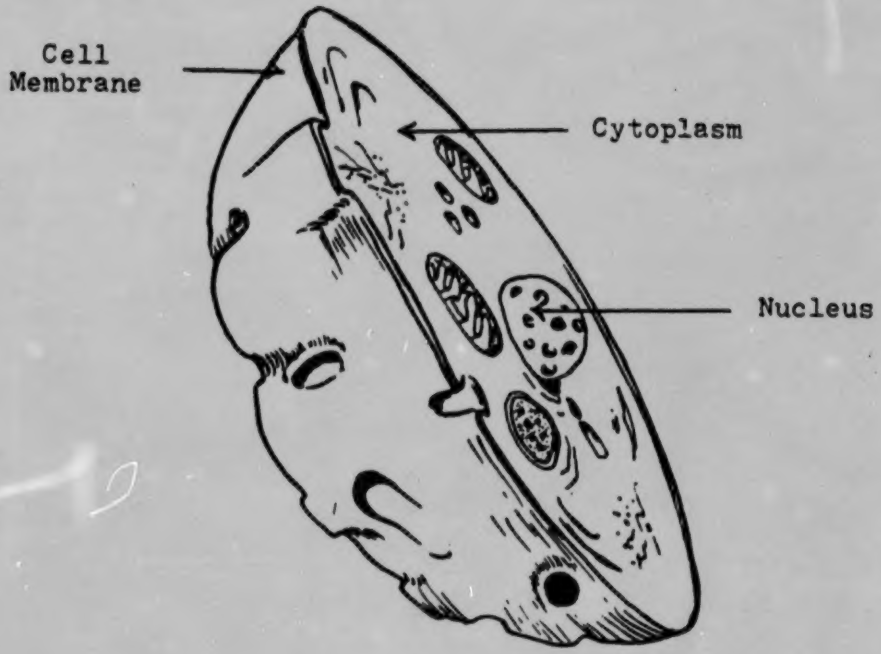
DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

HO 3ABR90230-I-6
November 1975

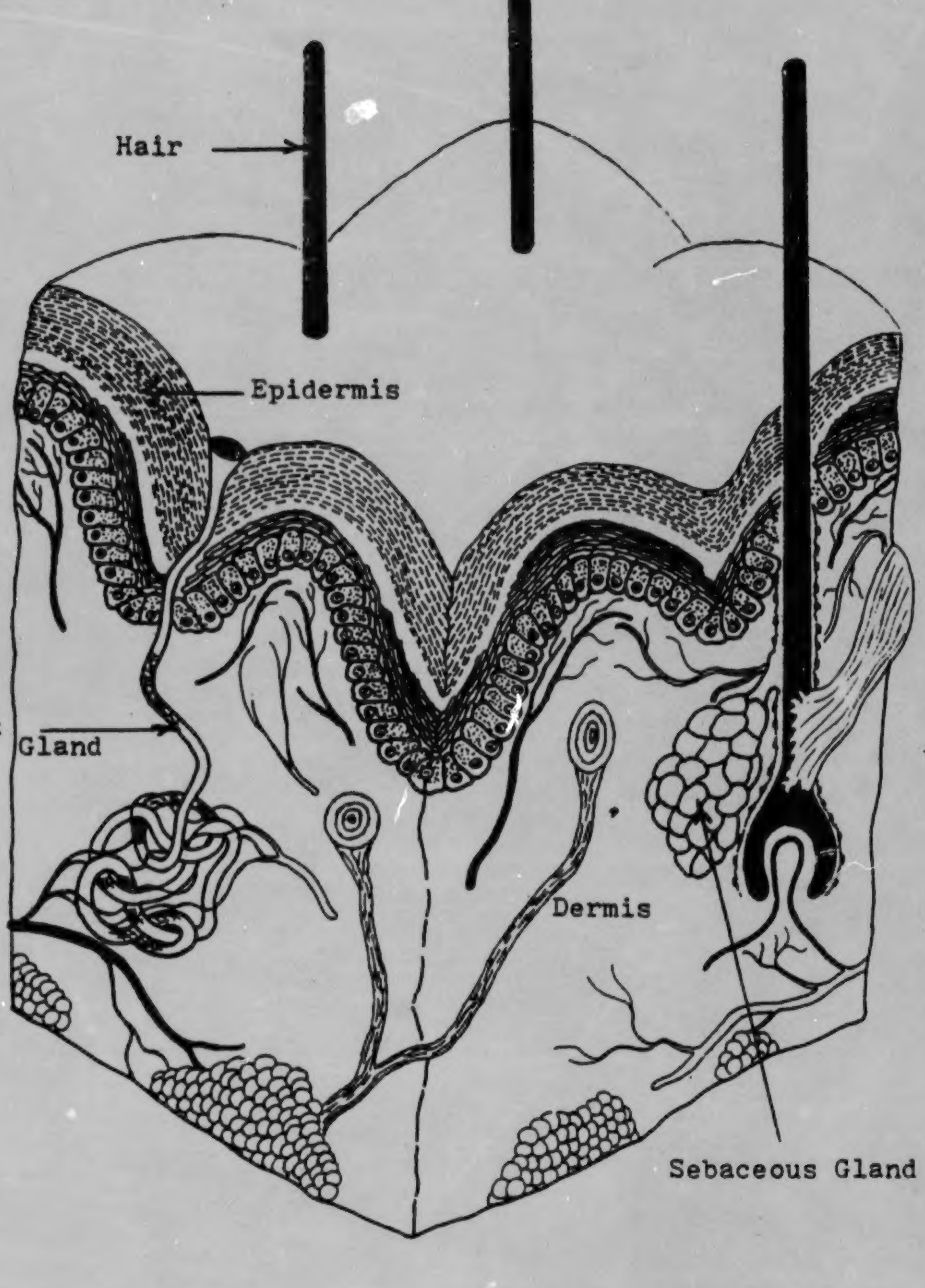
ANATOMICAL DRAWINGS

THE CELL


Cell Membrane
Cytoplasm
Nucleus

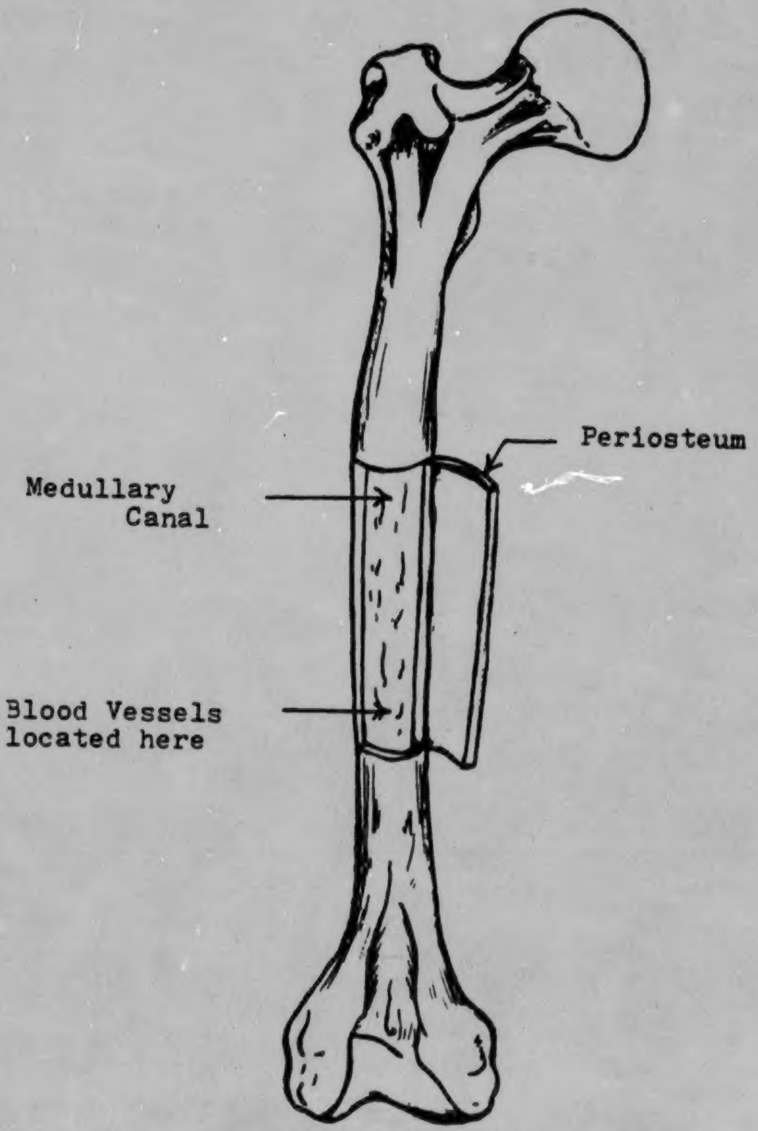
This supersedes HO 3ABR90230-I-6a, June 1975.

THE SKIN


Hair
Epidermis
Sweat Gland
Dermis
Sebaceous Gland

THE SKELETAL SYSTEM

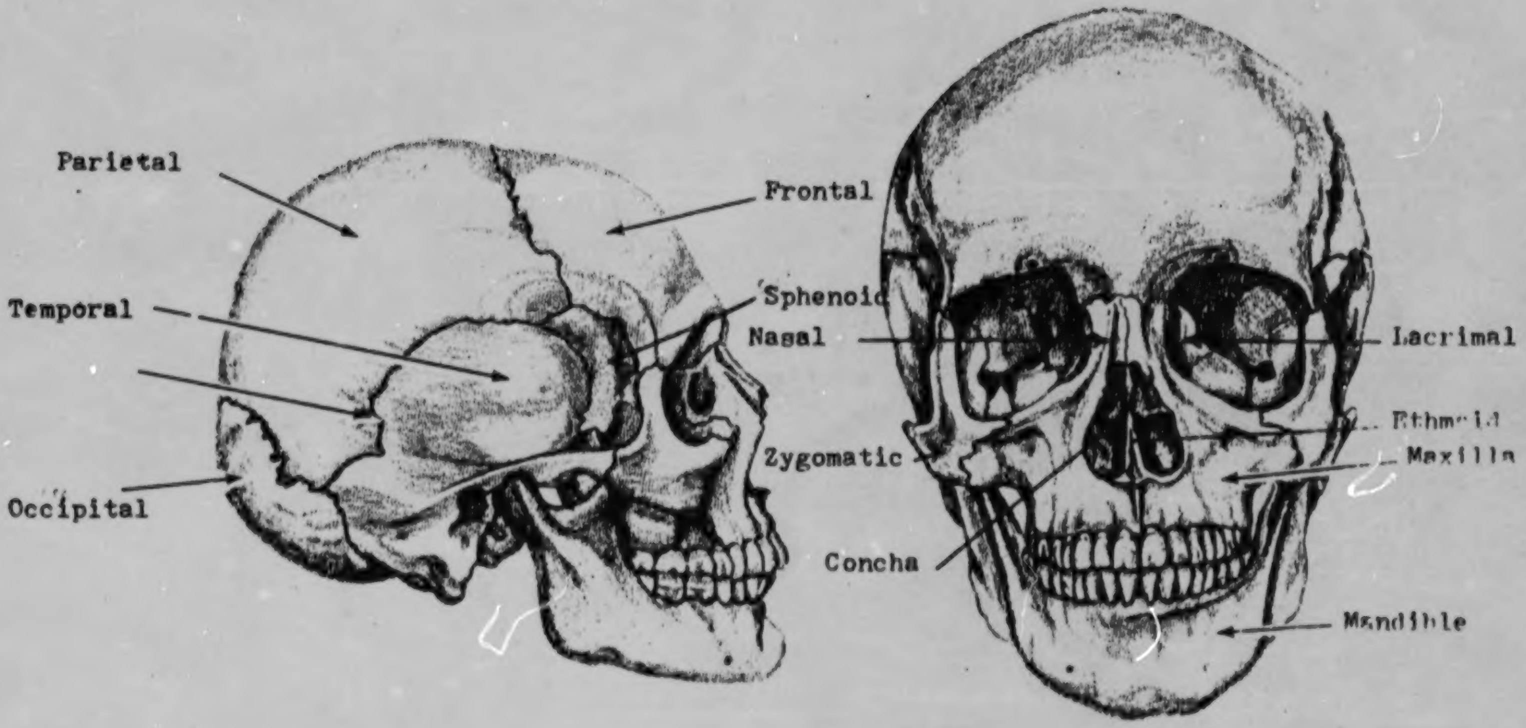
(Composition of bone)


Periosteum
Medullary Canal
Blood Vessels located here

Example of a long bone

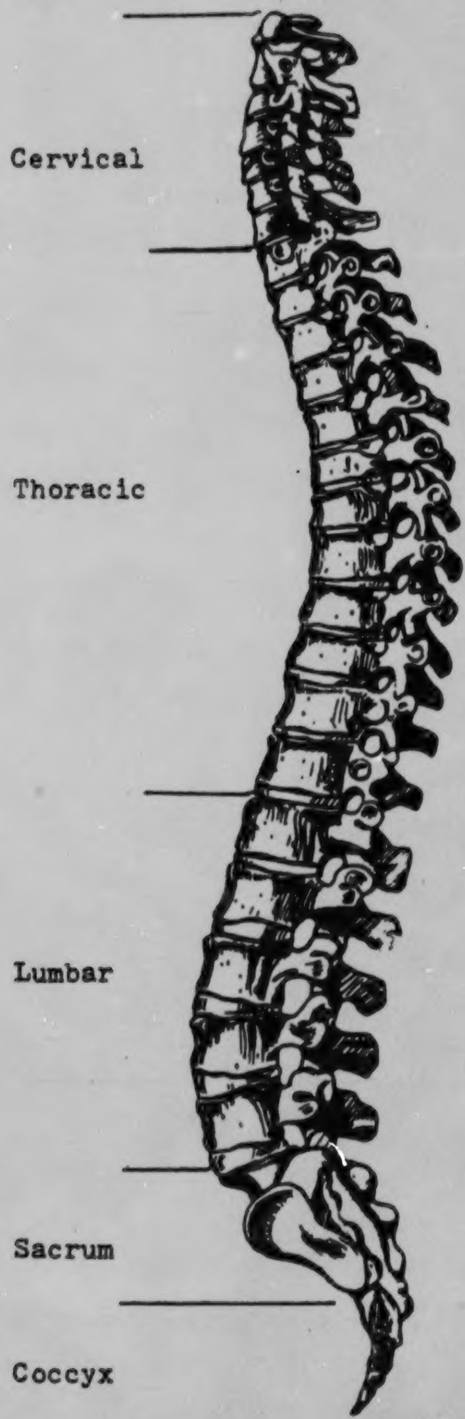
THE SKELETAL SYSTEM

(Skull)


Parietal
Frontal
Temporal
Sphenoid
Nasal
Lacrimal
Ethmoid
Zygomatic
Maxilla
Occipital
Concha
Mandible

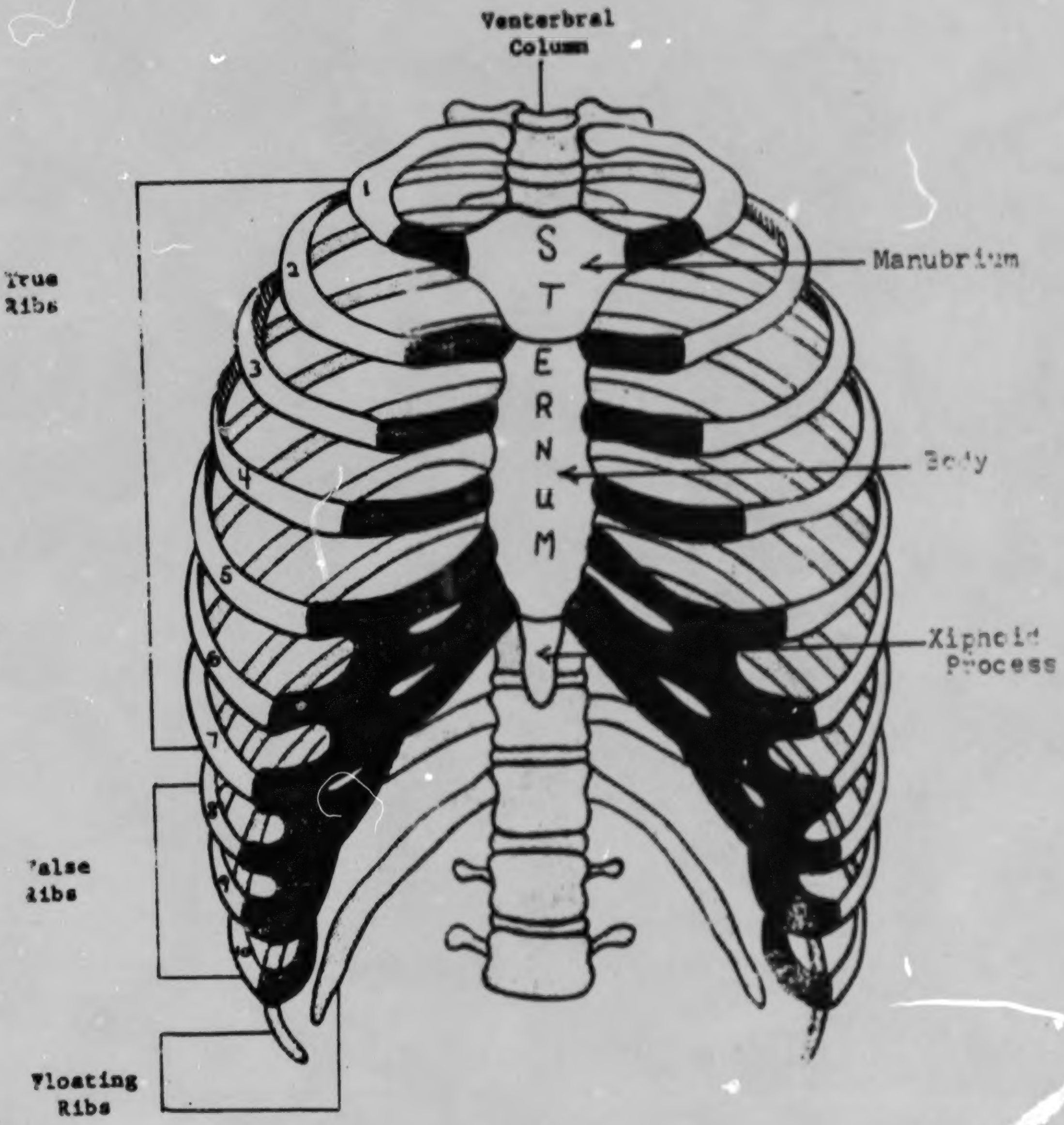
THE SKELETIAL SYSTEM

(Vertebral Column)


Cervical
Thoracic
Lumbar
Sacrum
Coccyx

THE SKELETIAL SYSTEM

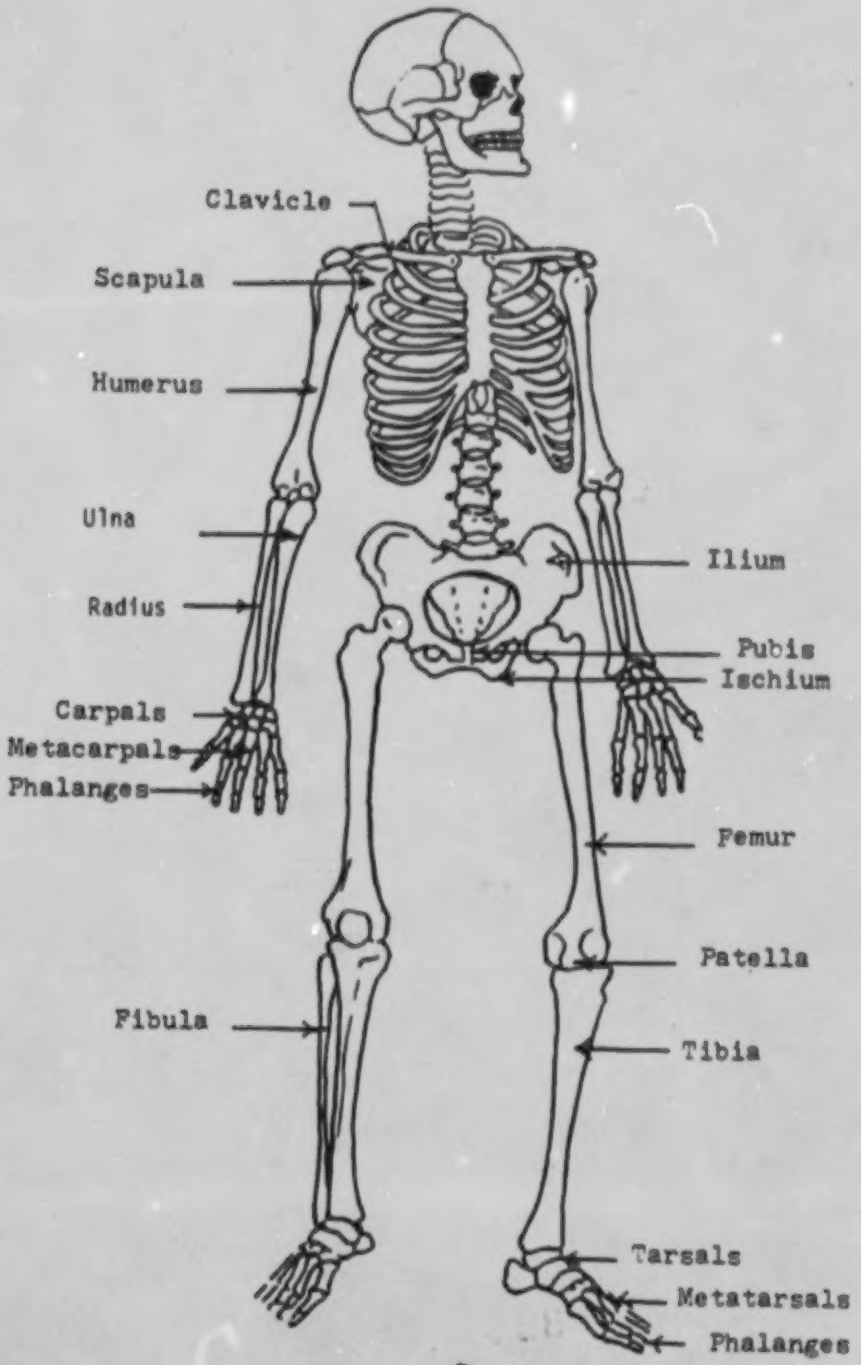
Bony Structures of The Thorax


Venterbral Column
True Ribs
False Ribs
Floating Ribs
STERNUM
Manubrium
Body
Xiphoid Process
1
2
3
4
5
6
7
8
9
10

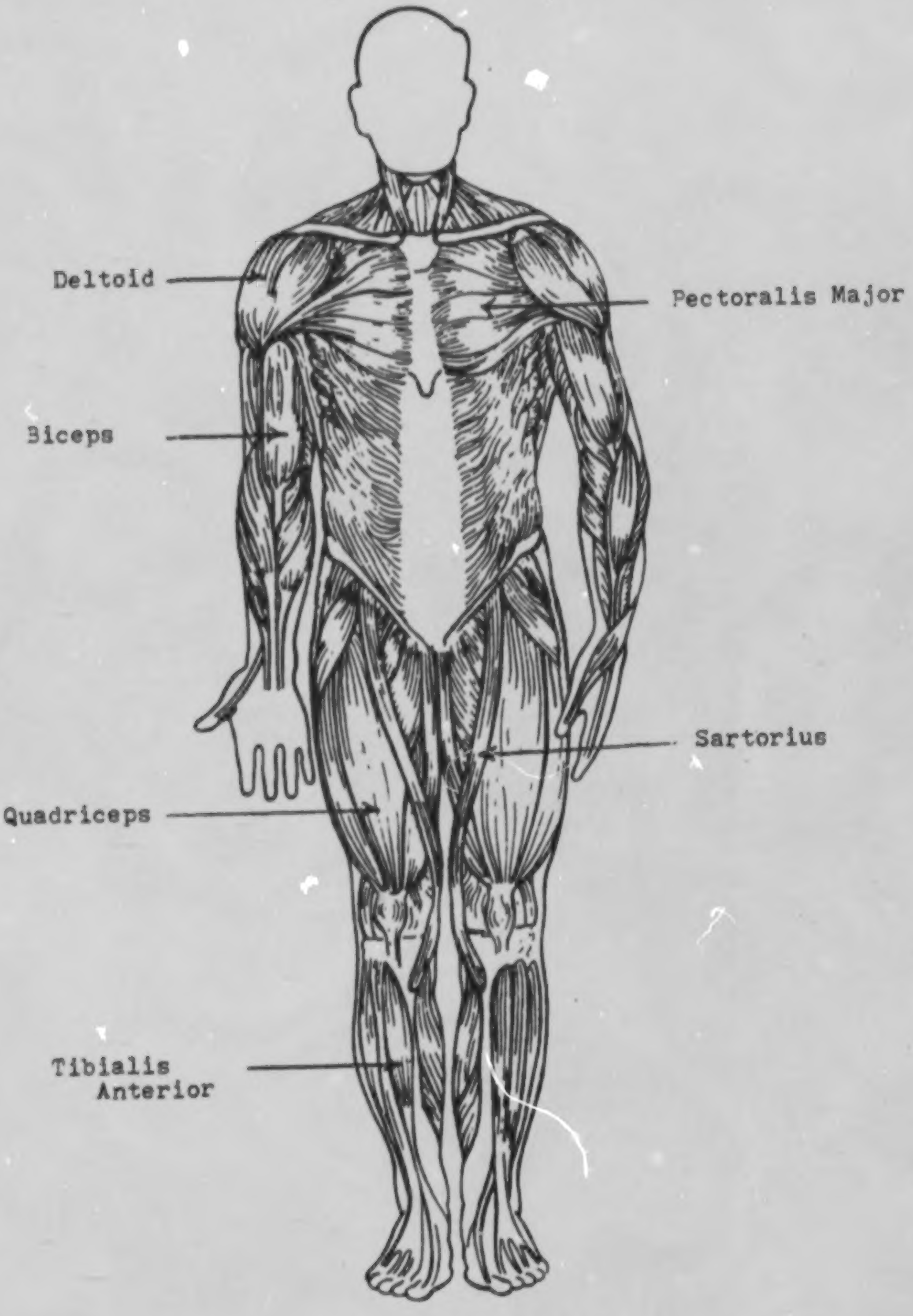
300

THE SKELETIAL SYSTEM

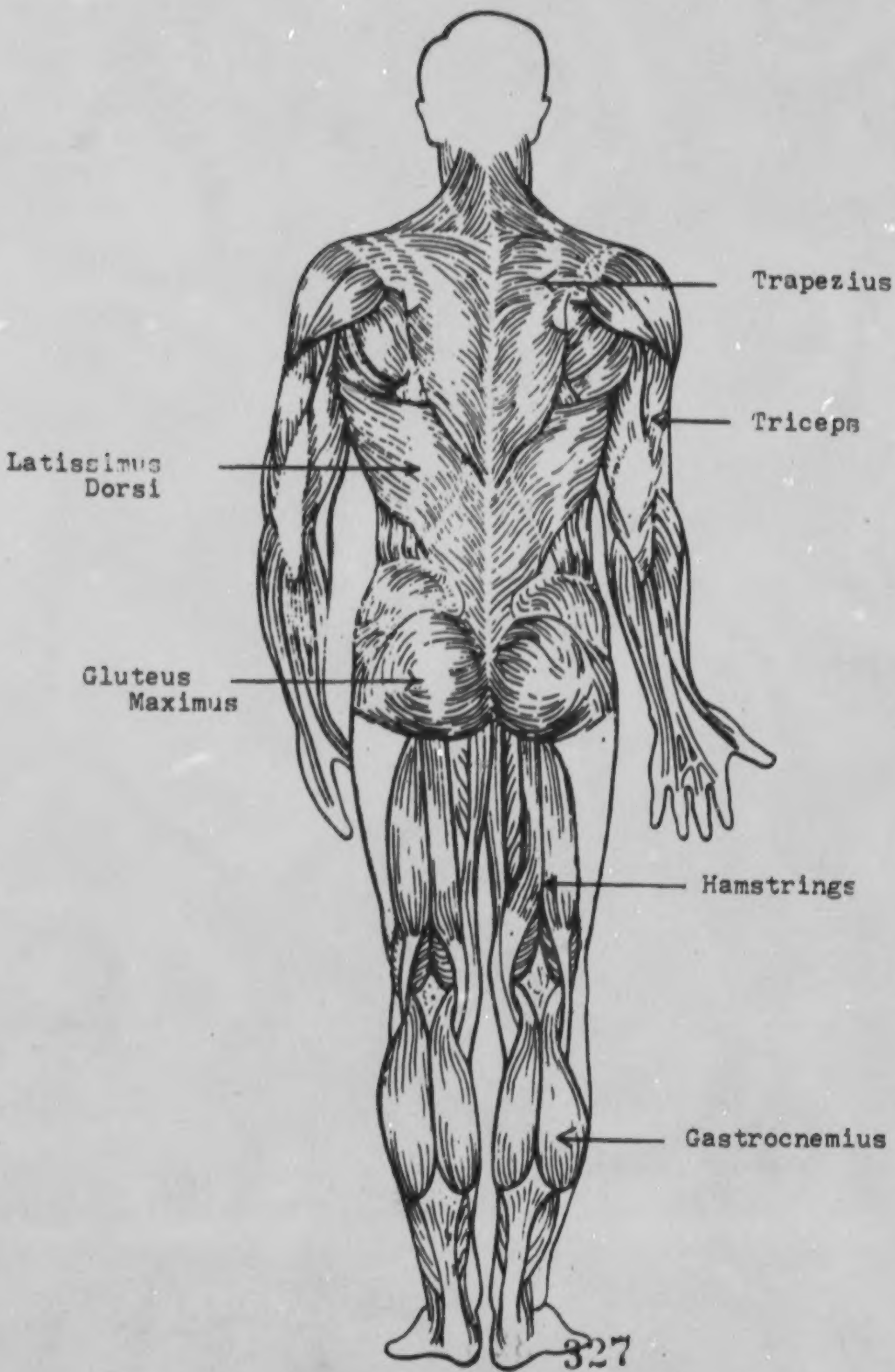
(Bone of the upper and lower extremities)


Clavicle
Scapula
Humerus
Ulna
Radius
Carpals
Metacarpals
Phalanges
Ilium
Pubis
Ischium
Femur
Patella
Fibula
Tibia
Tarsals
Metatarsals
Phalanges

MUSCULAR SYSTEM

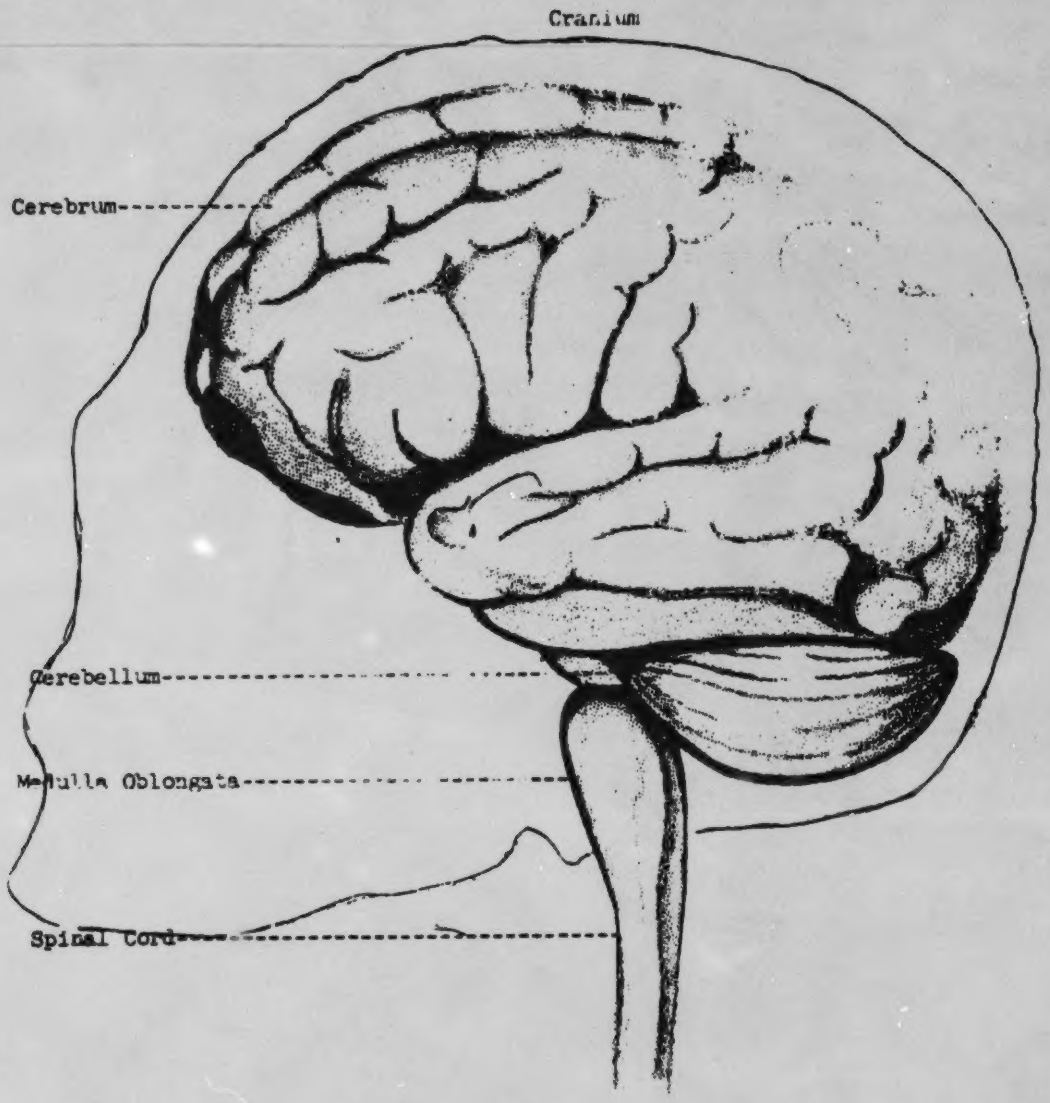

Deltoid
Pectoralis Major
Biceps
Sartorius
Quadriceps
Tibialis Anterior

MUSCULAR SYSTEM

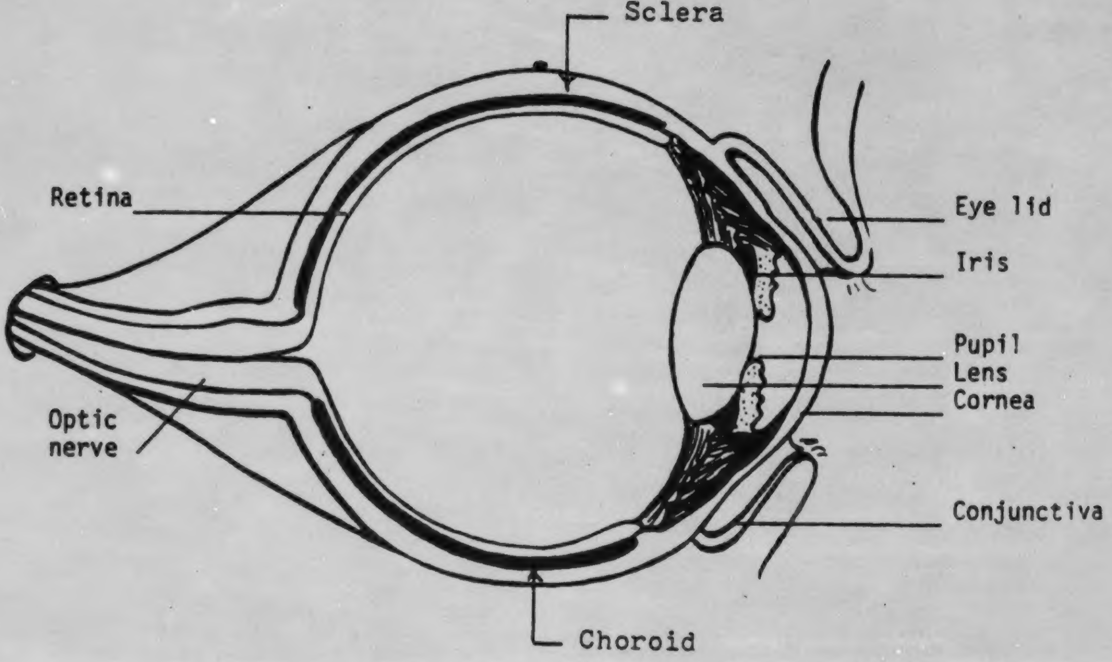

Trapezius
Triceps
Latissimus Dorsi
Gluteus Maximus
Hamstrings
Gastrocnemius

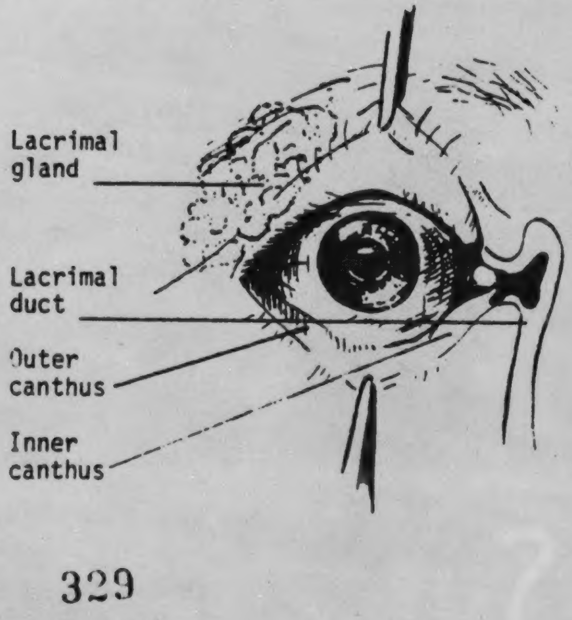
THE NERVOUS SYSTEM

(Central nervous system)

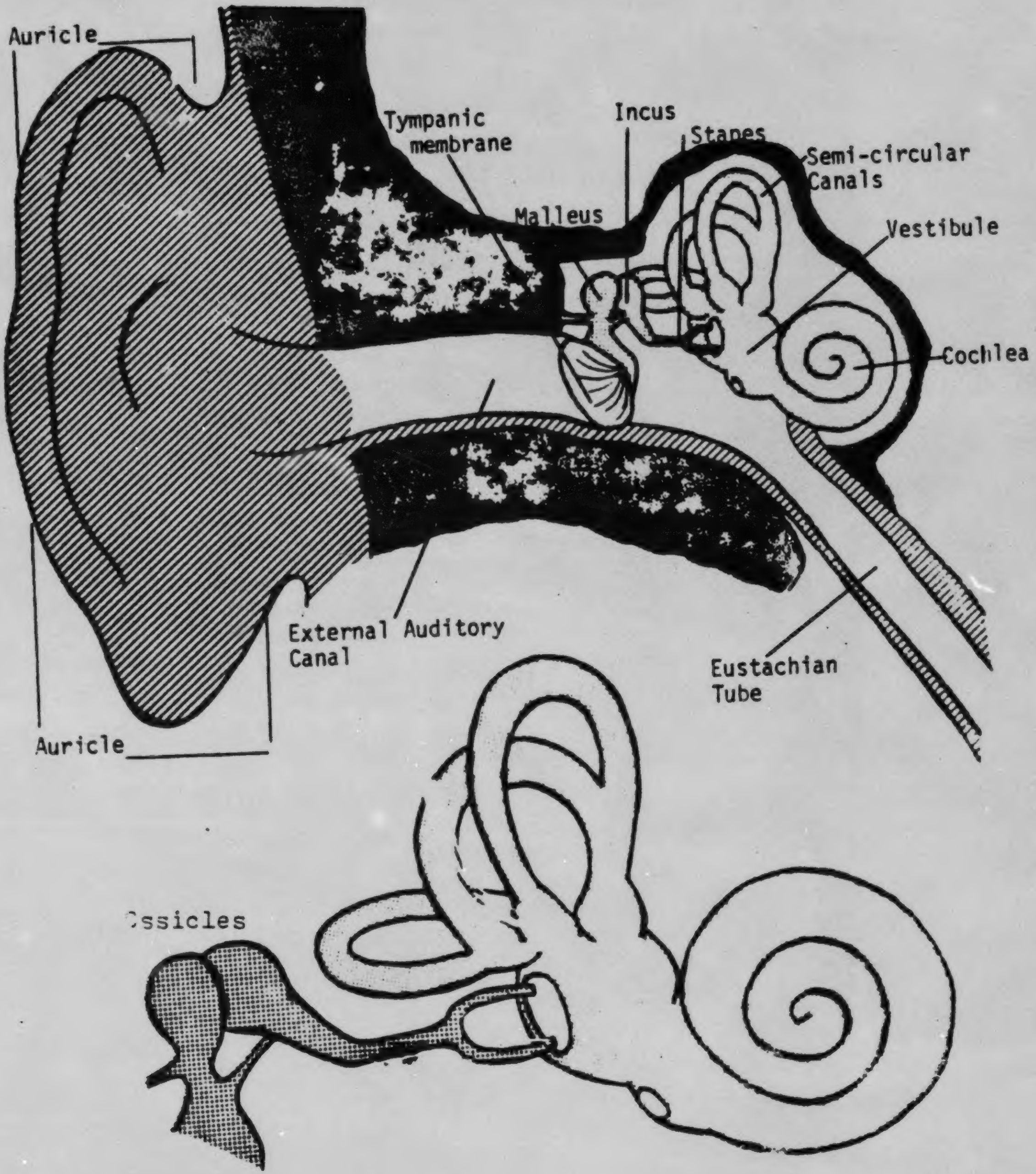

Cranium
Cerebrum
Cerebellum
Medulla Oblongata
Spinal Cord

THE EYE


Sclera
Retina
Eye lid
Iris
Pupil
Lens
Cornea
Optic nerve
Conjunctiva
Choroid


Lacrimal gland
Lacrimal duct
Outer canthus
Inner canthus

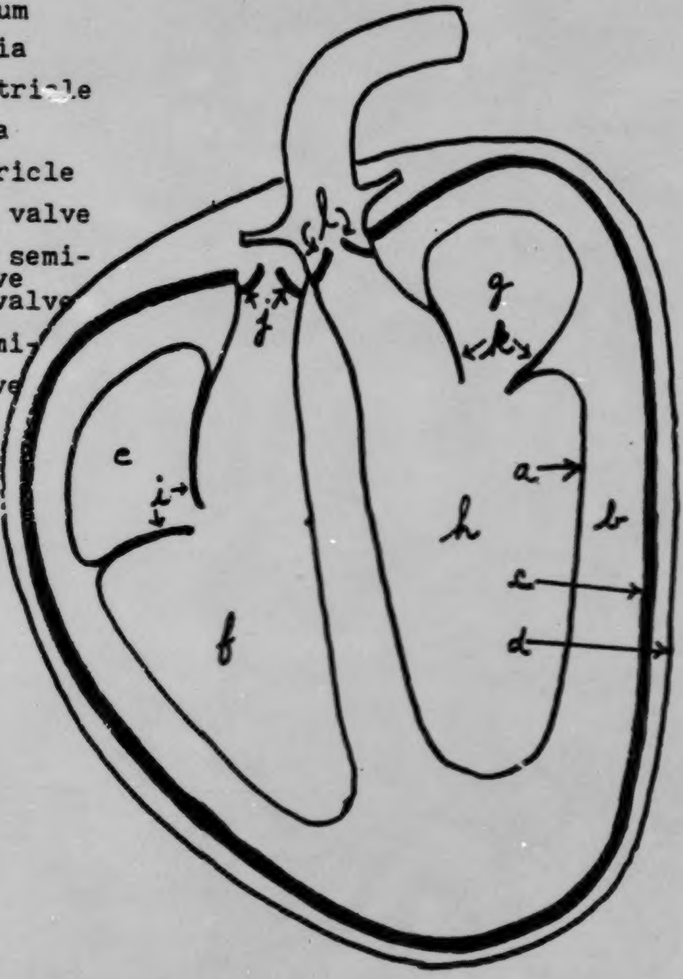
THE EAR


Auricle
Tympanic membrane
Incus
Stapes
Semi-circular Canals
Malleus
Vestibule
Cochlea
External Auditory Canal
Eustachian Tube
Auricle
Ossicles

THE HEART

(Structure)

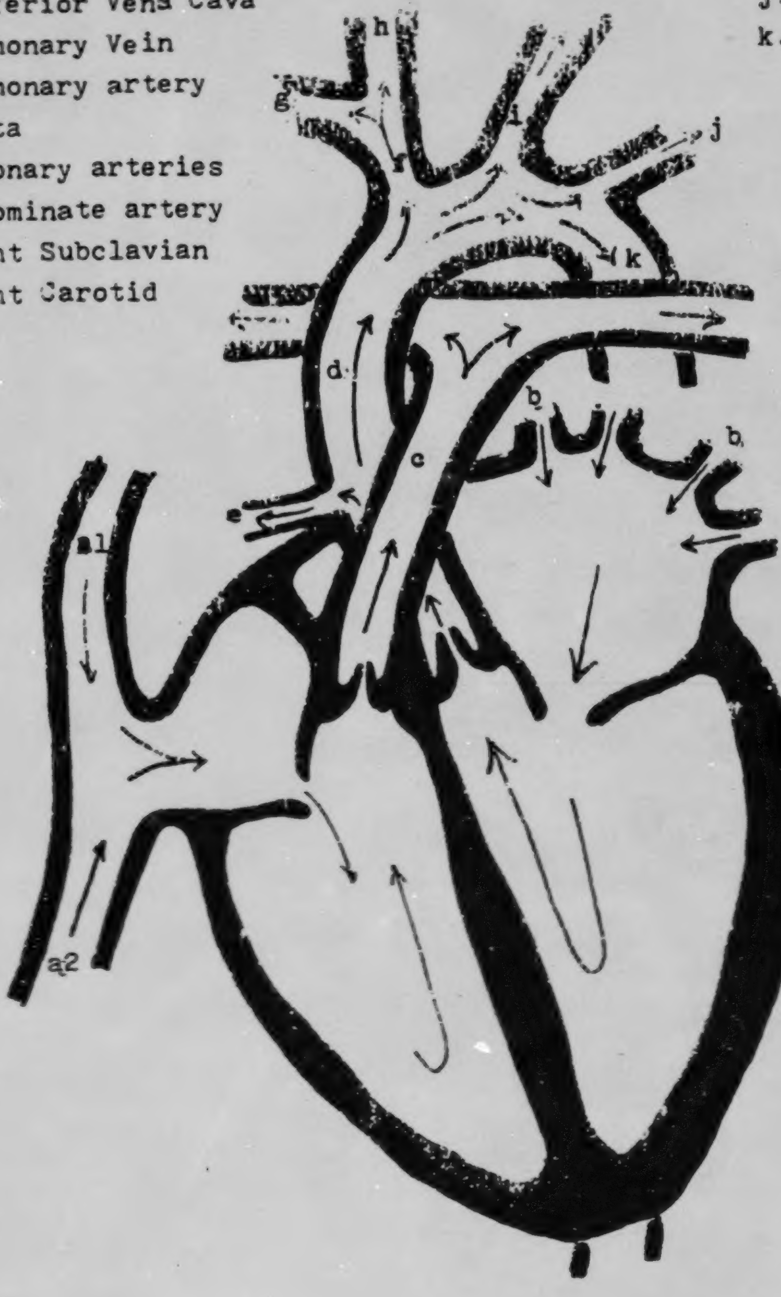
a. Endocardium
b. Myocardium
c. Epicardium
d. Pericardium
e. Right Atria
f. Right Ventricle
g. Left Atria
h. Left Ventricle
i. Tricuspid valve
j. Pulmonary semi-lunar valve
k. Bicuspid valv
l. Aortic semi-
lunar valve



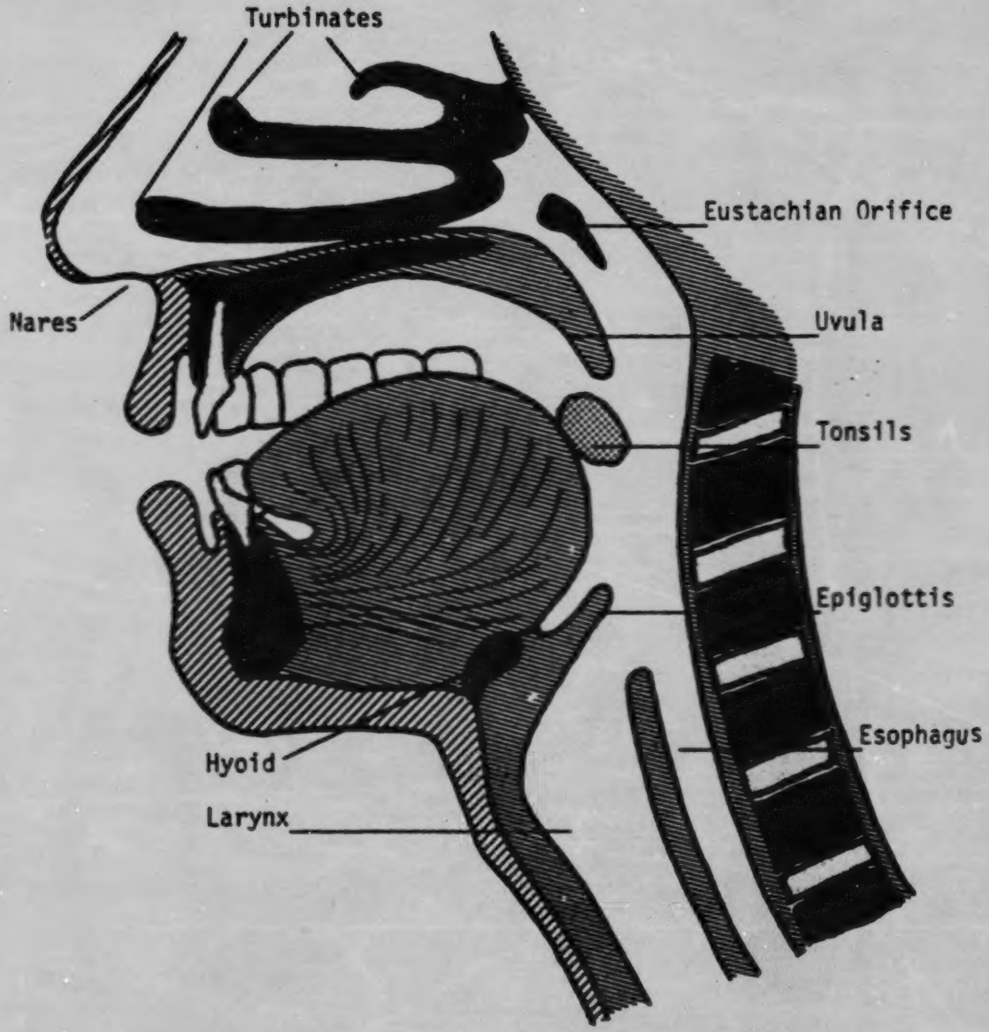
MAJOR BLOOD VESSELS

a.1. Superior Vena Cava
a.2. Inferior Vena Cava
b. Pulmonary Vein
c. Pulmonary artery
d. Aorta
e. Coronary arteries
f. Innominate artery
g. Right Subclavian
h. Right Carotid

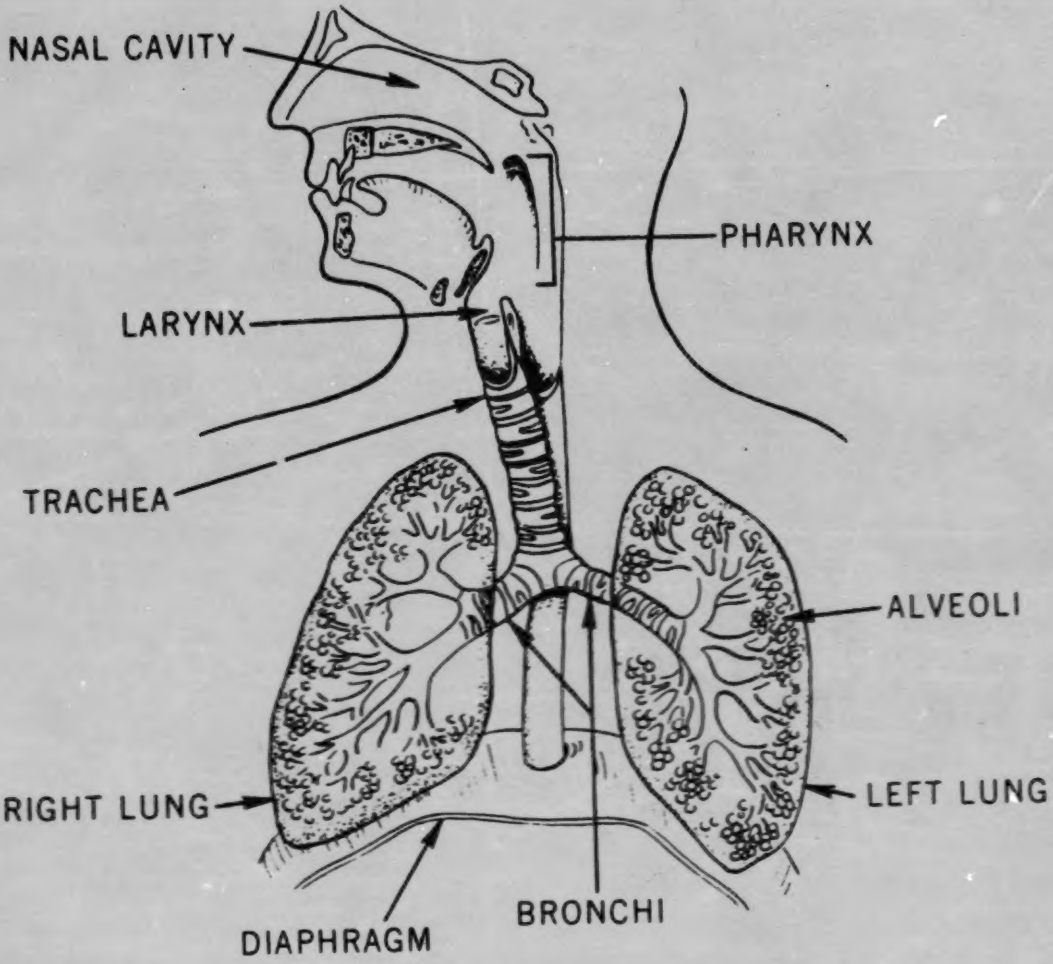
i. Left Carotid
j. Left Subclavian
k. Descending Aorta



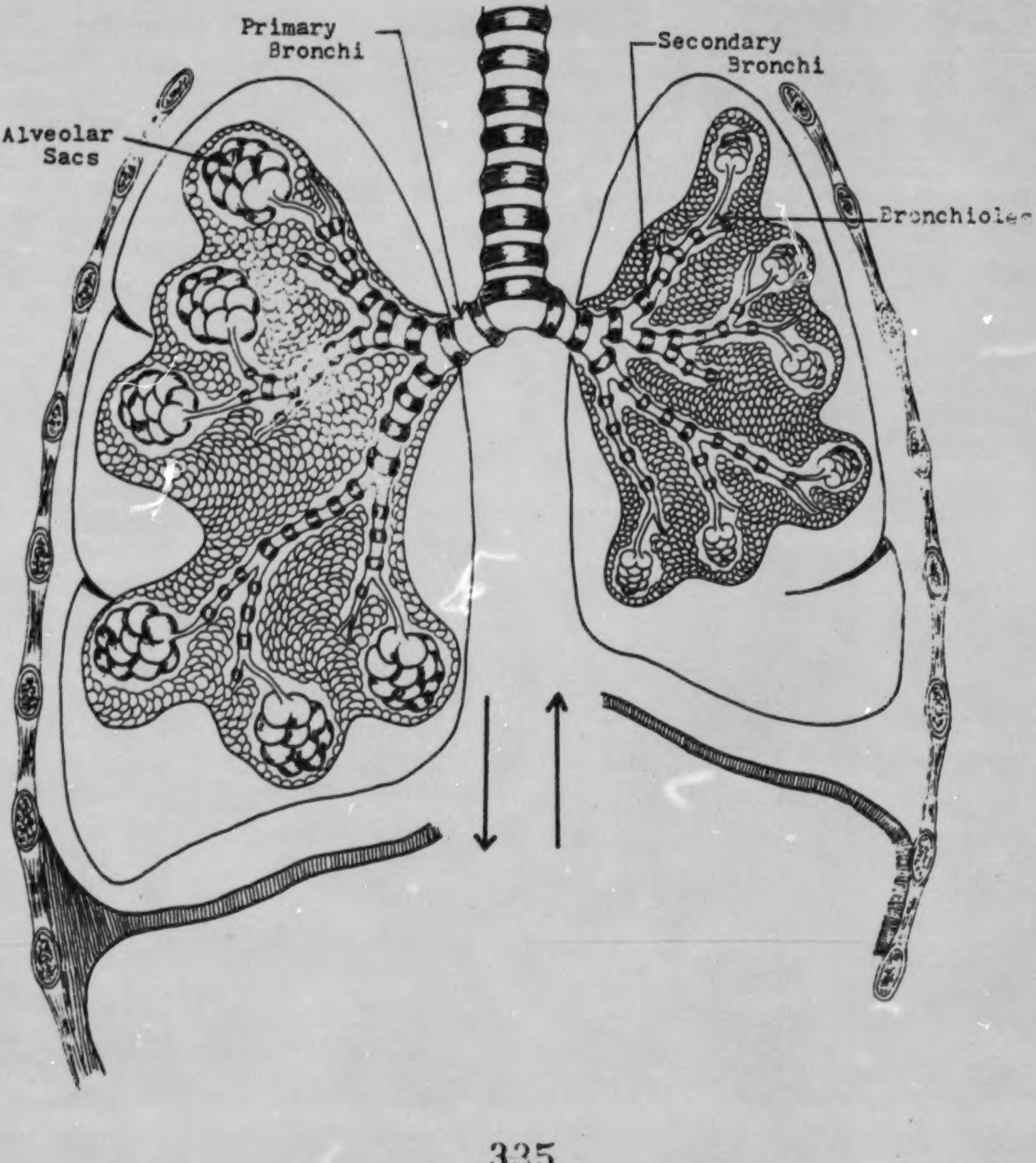
RESPIRATORY SYSTEM


Turbinates
Eustachian Orifice
Nares
Uvula
Tonsils
Epiglottis
Esophagus
Hyoid
Larynx

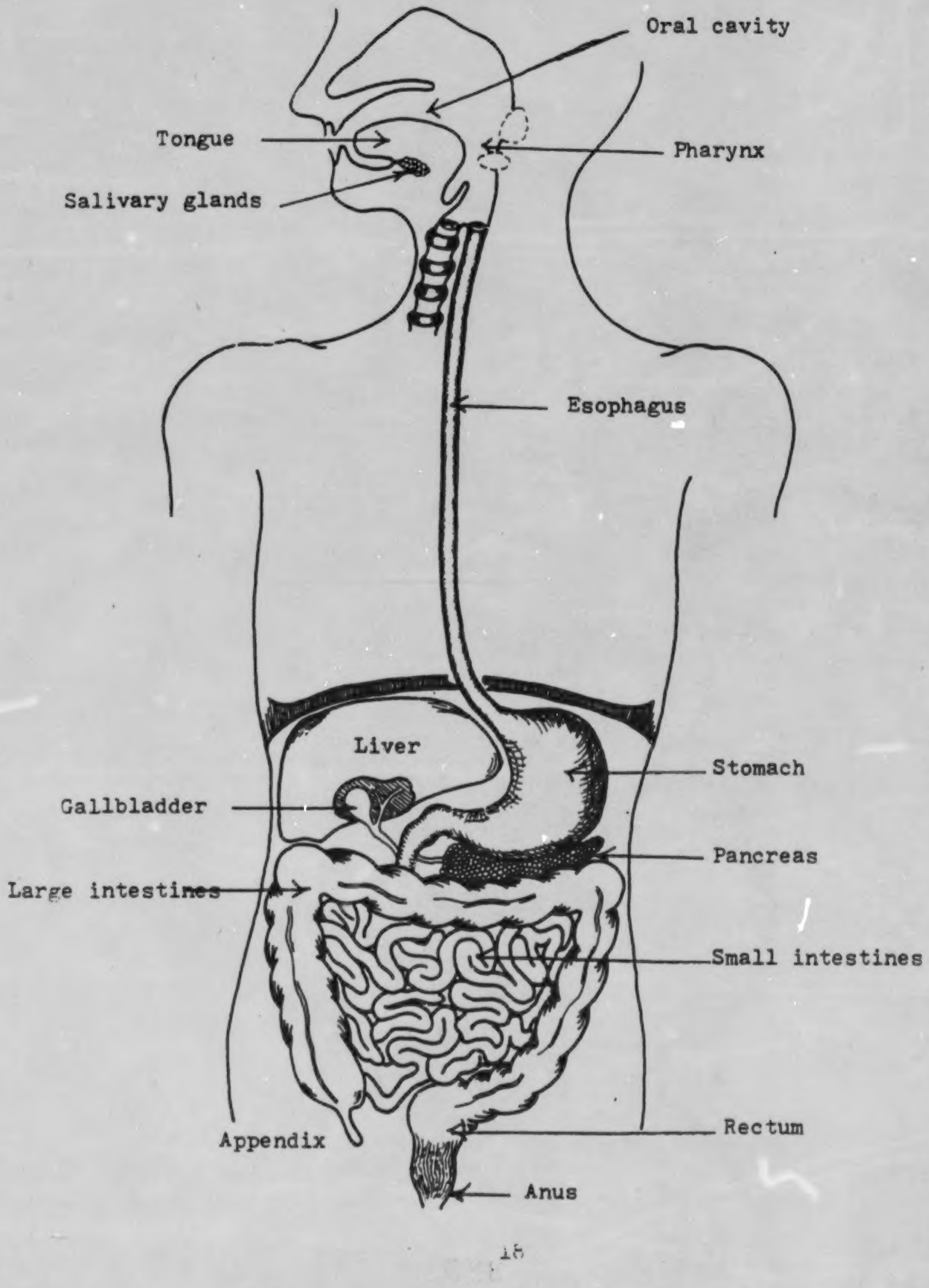
RESPIRATORY SYSTEM


NASAL CAVITY
PHARYNX
LARYNX
TRACHEA
ALVEOLI
RIGHT LUNG
LEFT LUNG
BRONCHI
DIAPHRAGM

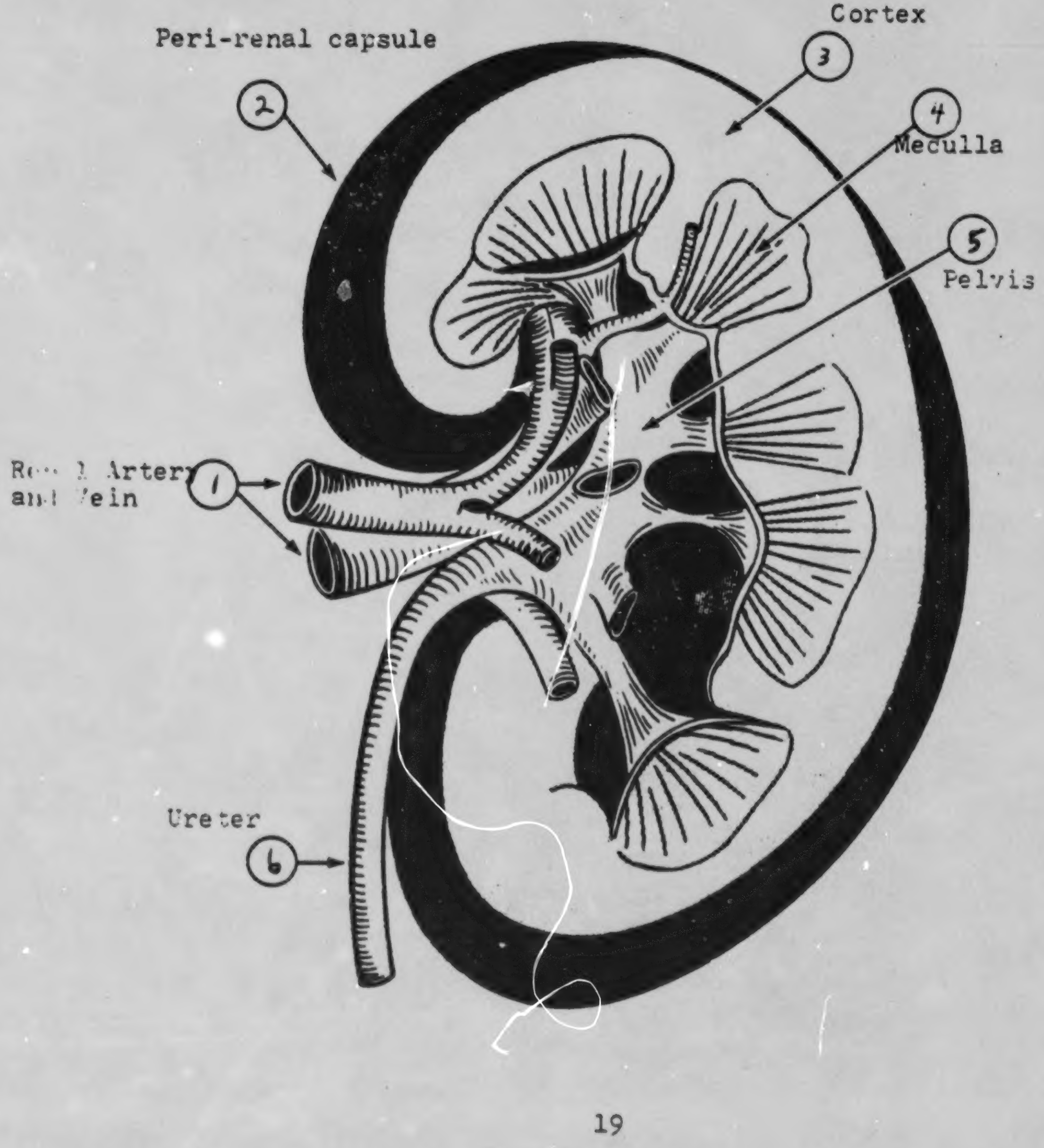
RESPIRATORY SYSTEM


Primary Bronchi
Secondary Bronchi
Alveolar Sacs
Bronchioles

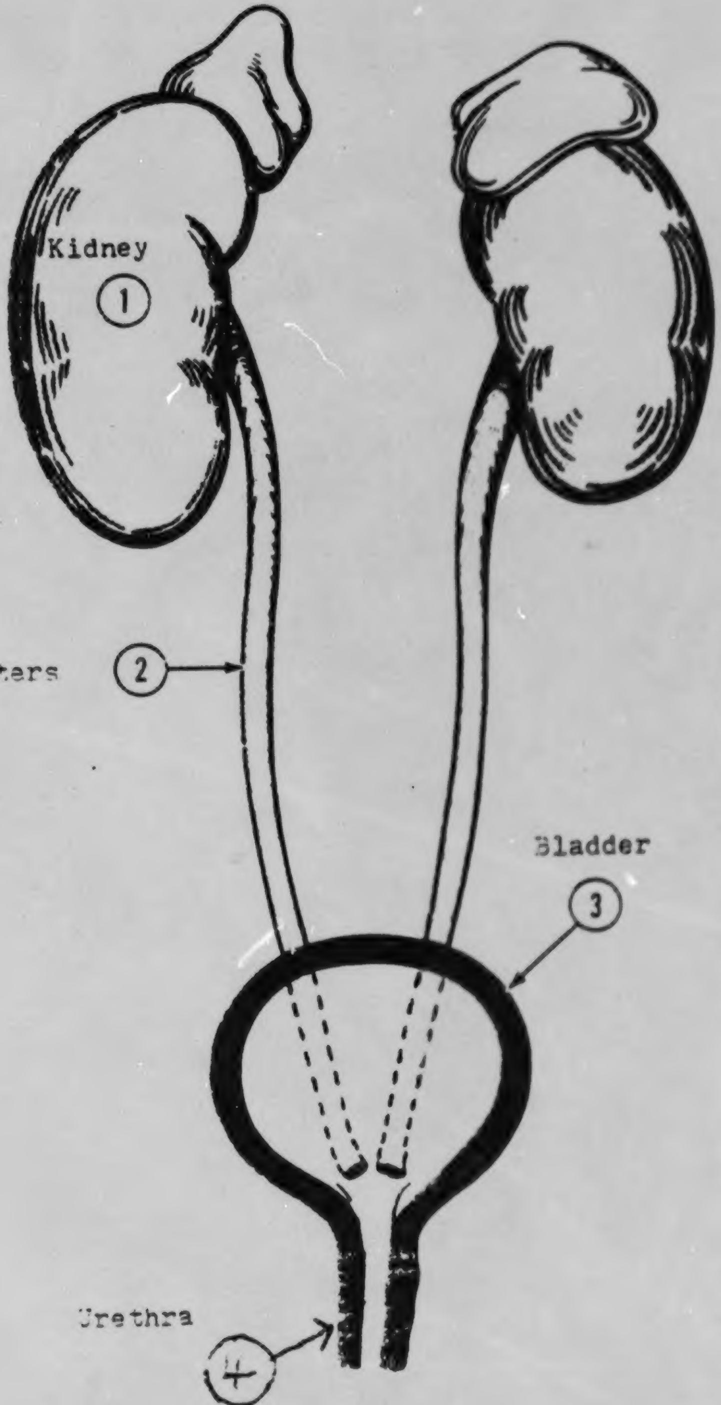
THE DIGESTIVE SYSTEM


Oral cavity
Tongue
Pharynx
Salivary glands
Esophagus
Liver
Stomach
Gallbladder
Pancreas
Large intestines
Small intestines
Rectum
Appendix
Anus

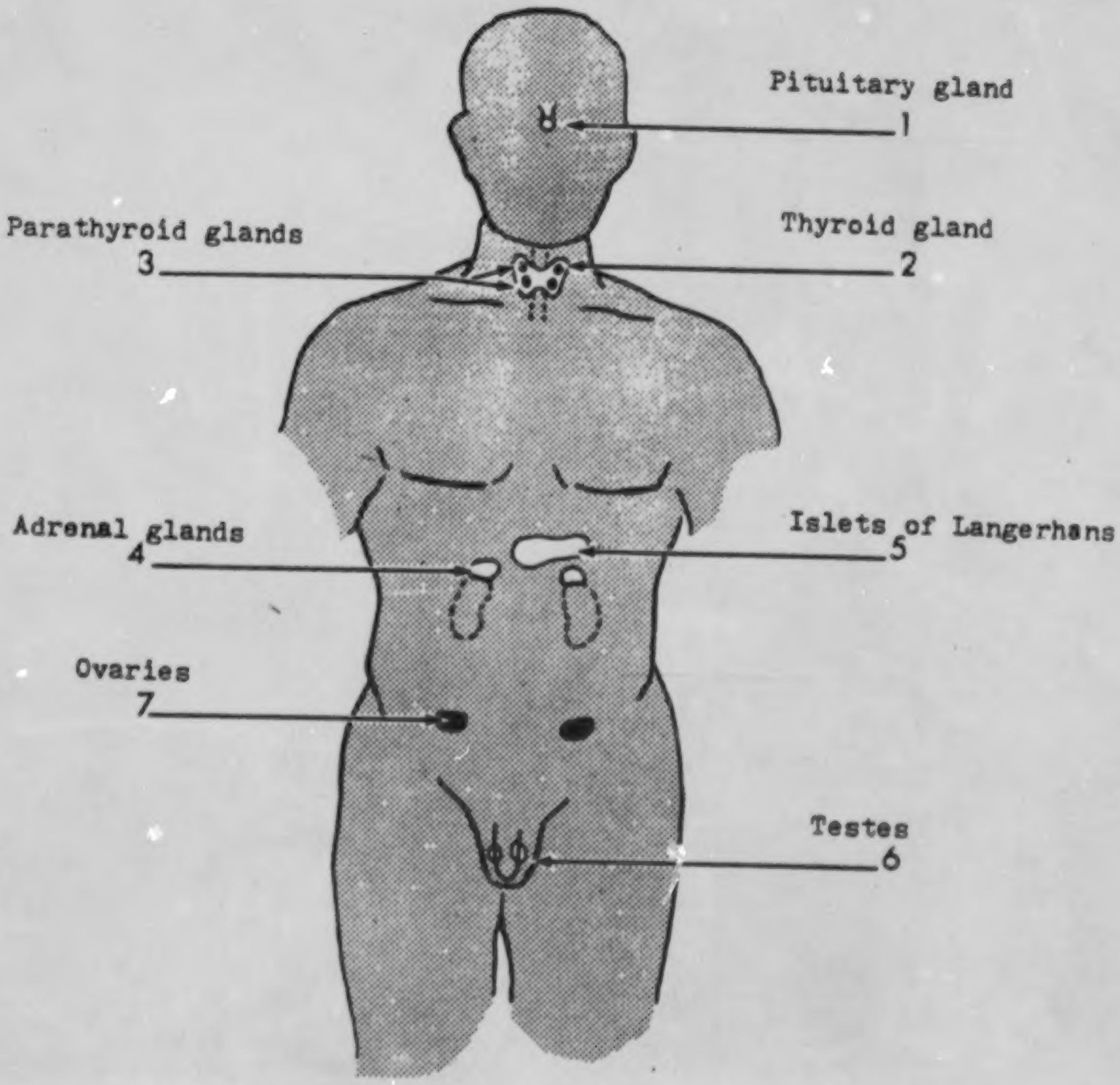
MACROSCOPIC VIEW OF THE KIDNEY


Cortex
Peri-renal capsule
③
②
④
Medulla
⑤
Pelvis
Renal Artery
and Vein
①
Ureter
⑥

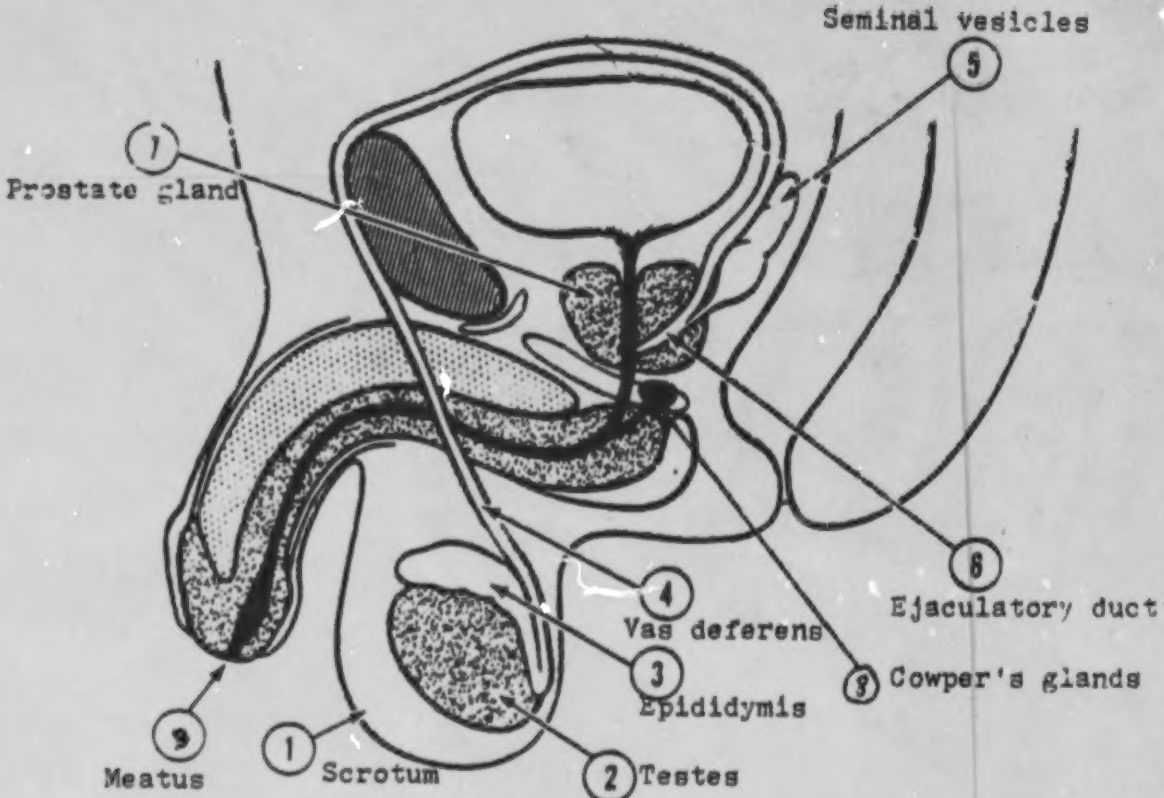
THE KIDNEY


Kidney
①
Ureters
②
Bladder
③
Urethra
④

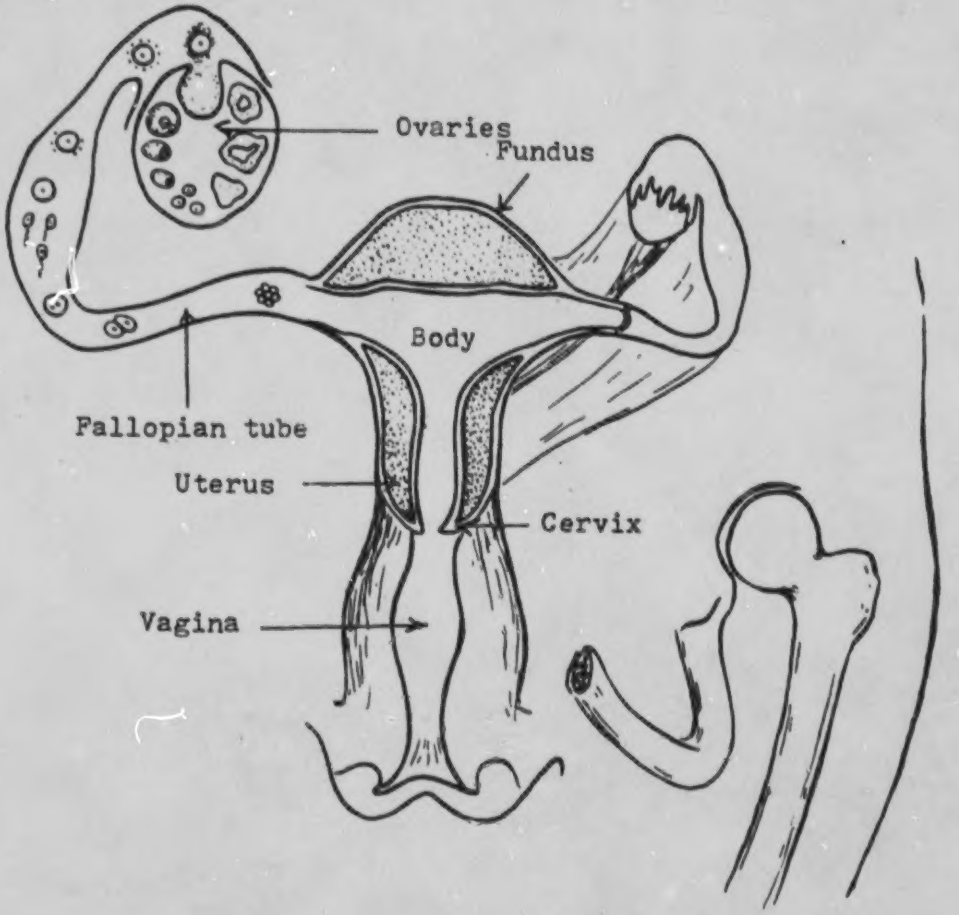
THE ENDOCRINE SYSTEM


Pituitary gland
1
Parathyroid glands
3
Thyroid gland
2
Adrenal glands
4
Islets of Langerhans
5
Ovaries
7
Testes
6

MALE REPRODUCTIVE SYSTEM


Seminal vesicles
5
7
Prostate gland
4
Vas deferens
3
Epididymis
6
Ejaculatory duct
8 Cowper's glands
9
Meatus
1
Scrotum
2 Testes

FEMALE REPRODUCTIVE SYSTEM


Ovaries
Fundus
Body
Fallopian tube
Uterus
Cervix
Vagina

317

PROGRAMMED TEXT 3ABR90230-I-13

DEPARTMENT OF NURSING

10-10

Block I

MEDICAL SERVICE SPECIALIST

COMMON DISEASE CAUSING ORGANISMS

June 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

PT 3ABR90230-I-13
June 1975

COMMON DISEASE CAUSING ORGANISMS

OBJECTIVES

Select basic facts and terms related to common disease causing organisms.

INTRODUCTION

In spite of the advances of medical science, the spread of disease is still a major threat to the mission of the Air Force. As a Medical Service Specialist, you will be required to assist in the care and treatment of patients with various infectious diseases. Your knowledge of the infectious agents and the basic control methods used to prevent their spread will therefore help you perform your job more effectively.

INSTRUCTIONS

You should study the programmed test as follows: First, study each step carefully. Then answer each question as directed. Do not write your answer until you are reasonably certain that it is correct. When you have written the answer, confirm it before continuing to the next step.

TURN THE PAGE AND BEGIN.

This supersedes PT 3ABR90230-I-10, May 1974.

SECTION A - COMMON DISEASE-CAUSING ORGANISMS

As a Medical Service Specialist you must be constantly alert to the dangers of infections that can spread so easily in the hospital environment.

Not all infectious agents, however, are harmful to man. Bacteria, for example, produces certain vitamins in the body; they also cause the fermentation necessary to the processing of cheese and other food products.

But some are harmful and cause diseases when they enter the body and multiply. It is with those harmful organisms that we are concerned. This section, therefore, was designed to teach you the common disease-causing organisms and the common diseases they cause.

1. COMMON CLASSIFICATIONS

Before you study the specific infectious agents, it is convenient to study some of their general classifications.

a. Pathogenic. Pathogenic means disease-producing; hence, infectious agents that can cause diseases are said to be pathogenic.

b. Non-pathogenic. Those infectious agents that do not cause diseases are called non-pathogenic.

c. Aerobic. Those infectious agents that require oxygen in order to live and multiply are called aerobic.

d. Anaerobic. Those infectious agents that can live in an oxygen-free environment are classified as anaerobic.

1.1. Match each term in Column A with the correct definition from Column B.

A-Terms	B-Definitions
____a. Pathogenic	1. Does not cause diseases.
____b. Aeorbic	2. Able to live in an oxygen-free environment.
____c. Non-pathogenic	3. Able to cause diseases.
____d. Anaerobic	4. Requires oxygen in order to live and multiply.

****

3-a., 4-b., 1-c., 2-d

****

2. BACTERIA

a. Definition. Bacteria are one-celled microorganisms of the plant kingdom.

b. Characteristics. Shape is an important characteristic of bacteria because it plays a key role in laboratory identification.

c. Diseases. Some of the common diseases caused by bacterial infections are gonorrhea, tuberculosis, tetanus, and whooping cough.

2.1. Match each term in Column A with the correct definition from Column B.

A-Terms	B-Definitions
____a. Pathogenic	1. Requires oxygen in order to live and multiply.
____b. Non-pathogenic	2. Does not cause diseases.
____c. Aerobic	3. Able to live in an oxygen-free environment.
____d. Anaerobic	4. Able to cause diseases.

****

4-a., 2-b., 1-c., 3-d

****

2.2. Select the correct definition of bacteria from the list below.

a. Bacteria are one-celled microorganisms of the plant kingdom.

b. Bacteria are multi-cellular microorganisms of the plant kingdom.

c. Bacteria are one-celled microorganisms of the animal kingdom.

******

a.

******

2.3. Identify each of the following as true or false.

____a. Shape is not significant in the identification of bacteria.

____b. Shape will aid in the laboratory identification of bacteria.

****

F a. T b.

****

2.4. Select the diseases caused by bacteria.

a. Whooping cough
b. Epidemic typhus
c. Tuberculosis
d. Common cold
e. Gonorrhea
f. Tetanus

****

a. c. e. f.

****

3. VIRUSES

a. Definition. A virus is a non-cellular, submicroscopic particle that lives in living cells.

b. Characteristics. In size, the virus is the smallest of all infectious agents and must be viewed with an electronic microscope. Like bacteria, viruses have many sizes and shapes that are significant factors in their laboratory identification.

c. Diseases. Common diseases produced by viral infections are measles, influenza, mumps, and the common cold.

3.1. Match each infectious agent in Column A with the correct definition from Column B.

A-Infectious Agents	B-Definitions
____a. Bacteria	1. Non-cellular, submicroscopic particles that live only in living cells.
____b. Viruses	2. One-celled microorganisms of the plant kingdom.

****

2 a. 1 b.

****

3.2. Identify each of the following as true or false.

____a. Bacteria have different shapes.

____b. All viruses are of the same size and shape.

****

_T_ a.   _F_ b.

****

3.3. Match each disease in Column A with the infectious agent that causes it from Column B.

A - Diseases

____a. Gonorrhea

____b. Common cold

____c. Measles

____d. Whooping cough

____e. Tetanus

____f. Influenza

____g. Tuberculosis

____h. Mumps

B - Infectious Agents

1. Bacteria

2. Viruses

****

1-a., 2-b., 2-c., 1-d., 1-e., 2-f., 1-g., 2-h.

****

4. FUNGI

a. Definition. Fungi are plants with no true stems, roots or leaves.

b. Characteristics. Fungi are so common that almost every person has at sometime during his lifetime been infected with a fungus.

c. Diseases. Some of the diseases caused by fungi infection are ringworm, athlete's foot, and coccidioidomycosis (a fungal infection of the lungs).

4.1. Match each infectious agent in Column A with the correct definition from Column B.

A - Infectious Agents	B - Definitions
____a. Bacteria	1. Plants with no true stems, roots, or leaves.
____b. Viruses	2. One-celled microorganisms of the plant kingdom.
____c. Fungi	3. Non-cellular, submicroscipic particles that live only in living cells.

****

2-a., 3-b., 1-c.

****

4.2. Identify each of the following as true or false.

____a. Bacteria are larger than viruses.

____b. Viruses are larger than bacteria.

____c. Viruses are classified by their size and shape.

____d. Pathogenic bacteria do not cause disease.

____e. Aerobic bacteria require oxygen to live.

____f. Anaerobic bacteria live in an atomosphere free of oxygen.

****

T-a., F-b., T-c., F-d., T-e., T-f.

****

4.3. Match each disease in Column A with the infectious agent that causes it from Column B.

A - Diseases

____a. Tetanus

____b. Whooping cough

____c. Mumps

____d. Tuberculosis

____e. Gonorrhea

____f. Influenza

____g. Measles

____h. Common cold

B - Infectious Agents

1. Bacteria
2. Viruses
3. Fungi

****

1-a., 1-b., 2-c., 1-d., 1-e., 2-f., 2-g., 2-h

****

SECTION B - CONTROL OF DISEASE-CAUSING ORGANISMS (PREVENTIVE MEDICINE)

Since you will be in frequent contact with persons having infectious diseases, you will be required to practice certain measures designed to prevent the spread of disease. Your role in the prevention of disease cannot be over-emphasized, and as a Medical Service Specialist, you must continually do your part to prevent it on the ward, in the clinic, and in the hospital.

5. TERMINOLOGY

In order to understand the fundamentals of preventive medicine, you should know certain key terms and their definitions.

a. Communicable Disease. By general definition, a communicable disease is any illness caused by an infectious agent or its toxic products. It may spread (or be communicated) from one person to another.

b. Source of Infection. The source of infection is defined as the thing, person, object or substance from which an infectious agent passes immediately to a susceptible host. The common cold, for example, is passed from the infected person (source) to another person (susceptible host). Man is the source of infection in many diseases. In some communicable diseases, the source in normally other than man. In malaria, for example, a mosquito bites an infected malaria victim, ingests the blood and develops another stage of the organism. The mosquite bites another person, giving that individual malaria. In this situation, the mosquito is the source of infection.

c. Host. A host is defined as any man, animal or plant in which infectious agents live, multiply and depend primarily for survival. For man to be a good host for a particular organism he has to be susceptible and not immune to the organism. The person who has had measles has developed an immunity to the organism that causes that disease. Because of the resistance his body has developed against the measles organism, that organism cannot live or reproduce in his body.

5.1. Match each term in Column A with the correct definition from Column B.

A - Terms

____a. Communicable Disease

____b. Source of Infection

____c. Host

B - Definitions

1. Man, animals or plants in which infectious agents live, multiply, and depend primarily for survival.
2. An illness due to an infectious agent or its toxic products transmitted from the source to a susceptible host.
3. The thing, person, object, or substance from which an infectious agent passes immediately to a host.

****

2-a., 3-b., 1-c.

****

d. Carrier. When a person does not have the clinical signs and symptoms of a disease but still harbors and passes the infectious agent which causes that disease, he is called a carrier. Usually, the carrier is one who is in a convalescent stage. After his bodily resistance has overcome or limited the spread of the agent, he can still harbor and pass the infectious agent to a host. The patient who has had typhoid fever, for example, might pass the agent in his stools for a long period of time.

e. Contact. A person is referred to as a contact when he has associated with someone or something that is carrying a disease. However, during that association he must have had the opportunity to acquire the infection. A man who has associated with a woman known to have a venereal disease, is not considered a contact unless his association included sexual intercourse.

5.2. Match each term in Column A with the correct definition from Column B.

A - Terms

____a. Communicable Disease

____b. Contact

____c. Host

____d. Carrier

____e. Source of Infection

B - Definitions

1. A person who harbors a specific infectious agent, demonstrates no clinical signs or symptoms of the disease and serves as a source of infection.
2. The thing, person, object, or substance from which an infectious agent passes immediately to a host.
3. An illness due to an infectious agent or its toxic products transmitted from the source to a susceptible host.
4. Man, animals, or plants in which infectious agents live, multiply, and depend primarily for survival.
5. A person known to have been associated with an infected person or animal, so as to have had the opportunity to acquire the infection.

****

3-a., 5-b., 4-c., 1-d., 2-e.

****

f. Endemic and Epidemic. Infectious disease is prevalent and exists in some areas of the world most of the time. Other areas are generally free of disease; however, an outbreak of a particular disease will occur occasionally and affect many individuals of a community. These two areas are termed as follows:

(1) Endemic means that a disease is prevalent in or restricted to a particular area or region. If you were transferred to an overseas area that was considered endemic for yellow fever, you would receive immunization for yellow fever before you departed for your new assignment.

(2) An epidemic area is a community in which a disease attacks many people and is spread rapidly at the same time. You have perhaps been in an area considered epidemic due to an outbreak of smallpox, flu, polio, etc.

5.3. Match each term in Column A with the correct definition from Column B.

A - Terms

____a. Communicable disease

____b. Contact

____c. Endemic

____d. Carrier

____e. Source

____f. Epidemic

____g. Host

B - Definitions

1. A person who harbors a specific infectious agent, demonstrates no clinical signs or symptoms of the disease and serves as a source of infection.
2. The thing, person, object, or substance from which an infectious agent passes immediately to a host.
3. An illness due to an infectious agent or its toxic products transmitted from the source to a susceptible host.
4. Man, animals, or plants in which infectious agents live, multiply, and depend primarily for survival.
5. A person known to have been associated with an infected person or animal, so as to have had the opportunity to acquire the infection.
6. A disease attacking many people in the community at the same time.
7. Prevalent in or restricted to a particular area or region.

****

3-a., 5-b., 7-c., 1-d., 2-e., 6-f., 4-g.

****

6. MODES OF TRANSMISSION

The infectious agents that cause disease are spread in many ways. The mechanism by which the harmful organisms are spread from the source to the susceptible host are called modes of transmission. They are:

c. Droplet Spread. One of the most common means of spreading disease is through droplet spread. The infected person projects spray which contains the harmful organisms into the face or mouth of the host. This is done by sneezing, coughing, singing, or talking.

6.1. Match each mode of transmission in Column A with the Correct example from Column B.

A - Modes of Transmission	B - Examples
____a. Direct Contact	1. Sneezing, coughing
____b. Indirect Contact	2. Kissing, sexual intercourse.
____c. Droplet Spread	3. Handling contaminated items such as handkerchief.

****

2-a., 3-b., 1-c.

****

d. Vehicle. Water, food, and milk sometimes contain harmful infectious agents and if ingested by a susceptible host can cause disease. This mode of transmission is known as vehicle. The substance (food, water, etc.) serves as an intermediate means by which the harmful agent is transported from the source to the host.

e. Vector. Arthropods or other invertebrates transmit harmful agents by inoculation into or through the skin. As previously explained, malaria is spread from man to man by a mosquito. Vectors further spread disease by despositing infective materials on the skin, food, and other objects.

f. Airborne. Residues from droplet spray and dust carrying infectious agents that are suspended in the air are further examples of how disease is spread. This mode of transmission is known as airborne.

6.2. Match each mode of transmission in Column A with the appropriate example in Column B.

A - Modes of Transmission	B - Examples
___a. Direct Contact	1. Projection of spray during sneezing.
___b. Indirect Contact	2. Kissing, sexual intercourse.
___c. Droplet Spread	3. Touching a contaminated item such as a handkerchief.
___d. Vehicle	4. Water, food, milk
___e. Vector	5. Mosquitoes, flies
___f. Airborne	6. Dust from floors, clothes, and bedding.

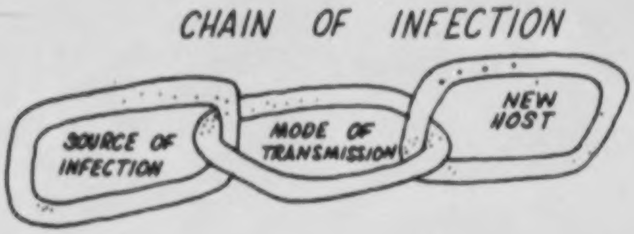
****

2-a., 3-b., 1-c., 4-d., 5-e., 6-f.

****

7. CHAIN OF INFECTION

In order for a disease to spread, there must be certain elements that make up the chain of infection. Study the illustration below:



From the illustration, you can see that the chain is formed by the source, mode of transmission, and new host. Elimination or control of any one of the factors (links) controls the spread of disease. Such elimination or control breaks the links of the chain.

7.1. Select the correct chain of infection:

a. Mode of Transmission - New Host - Source.

b. New Host - Mode of Transmission - Source.

c. Source - New Host - Mode of Transmission.

d. Source - Mode of Transmission - New Host.

****

d.

****

8. CONTROL MEASURES

To prevent and control the spread of disease, certain preventive methods must be followed. Active immunization of all persons exposed to infection, milk pasteurization, personal hygiene, chlorination of water, and control of vectors and rodents are a few preventive measures that can be taken to prevent and control the spread of disease. The following are three principal methods with examples of how they are used.

a. Control of Patient, Contacts, and Immediate Environment. Individuals with known infectious diseases are placed in isolation if they are hospitalized. After treatment and release from the hospital, the area in which they were isolated in thoroughly disinfected. In other cases, such as gonorrhea, a report is made to the local health authority and an investigation if begun for the contacts and source of infection.

b. Epidemic Measures. In the event of an epidemic, the source must be located immediately. Physicians are informed of the disease characteristics so that they can quickly identify affected persons. A combined effort by all concerned is made to restrict the epidemic to a given area. An intensified effort is made to find and treat new cases before the disease advances in stage. Houses and buildings known to harbor the infectious agents are sprayed with disinfectant. There are reported cases where entire community dwellings have been burned to the ground to eliminate the deadly agents.

c. International Measures. Through international health organizations, measures have been established to control and inspect international travelers. Individuals having certain communicable diseases are not allowed to leave or enter a new country. Imports and exports are monitored closely. Fish and fish products imported from endemic areas are inspected very carefully. International immunization is required and quarantine measures are used where needed.

8.1. Match each communicable disease control method in Column A with the correct example from Column B.

A - Method of Control	B - Examples
____a. Control of patient, contact, and immediate environment.	1. Report to local health authority investigation of contacts and source of infection.
____b. Epidemic measures.	2. Control of fish or fish products imported from endemic area.
____c. International measures.	3. Intensification of case finding and systematic spraying of houses with DDT.

****

1-a., 3-b., 2-c.

****

9. FINAL TEST

You are now ready for a test. When you have completed it, check it against the key. If you miss an item, review - the number in parenthesis after each answer indicates the number of the paragraph to be reviewed.

9.1. Match each definition in Column B with the correct infectious agent in Column A.

A - Infectious Agents	B - Definitions
____a. Bacteria	1. A non-cellular, submicroscopic particle that lives only in living cells.
____b. Viruses	2. A one-celled microorganism of the plant kingdom.
____c. Fungi	3. A plant with no true stems, roots, or leaves.

9.2. Identify each of the following statements as true or false.

____a. Bacteria are larger than viruses.

____b. Viruses are larger than bacteria.

____c. Bacteria are classified by their size and shape.

____d. Viruses are classified by their size and shape.

____e. Pathogenic bacteria do not cause disease.

____f. Aerobic bacteria require oxygen to live.

____g. Anaerobic bacteria live in an atmosphere free of oxygen.

9.3. Match the infectious agents in Column A with the diseases they produce as listed in Column B. Write the letter of each infectious agent in the blanks beside the diseases they cause.

A - Infectious Agents

a. Bacteria

b. Virus

c. Fungi

B - Diseases

____1. Gonorrhea

____2. Measles

____3. Tuberculosis

____4. Ringworm

____5. Influenza

____6. Athlete's foot

____7. Tetanus

____8. Mumps

____9. Coccidioidomycosis

____10. Whooping cough

9.4. Match each term in Column A with the correct difinition from Column B.

A - Terms

____a. Communicable disease
____b. Source
____c. Host
____d. Carrier
____e. Contact
____f. Epidemic
____g. Endemic

B - Definitions

1. Man, animals, or plants in which infectious agents live, multiply and depend primarily for survival.
2. An illness due to an infectious agent or its toxic products transmitted from its reservoir to a susceptible host.
3. A person who harbors a specific infectious agent, demonstrates no clinical manifestations of the disease, and serves as a source of infection.
4. A disease attacking many people in the community at the same time.
5. A person known to have been associated with an infected person or animal, so as to have had the opportunity to acquire the infection.
6. Prevalent in or restricted to a particular area or region.
7. The thing, person, object, or substance from which an infectious agent passes immediately to a host.

9.5. Match each mode of transmission in Column A with the correct example from Column B.

A - Modes of Transmission

____a. Direct contact
____b. Indirect contact
____c. Droplet spread
____d. Vehicle
____e. Vector
____f. Airborne

B - Examples

1. Projection of spray during sneezing.
2. Kissing, sexual intercourse
3. Touching a contaminated item such as a handkerchief.
4. Water, food, milk
5. Mosquitoes, flies
6. Dust from floors, clothes, bedding, etc.

9.6. The chain of infection is as follows: (Select the correct one).

- a. Mode of transmission - New host - Source.
- b. New host - Mode of transmission - Source.
- c. Source - New host - Mode of transmission.
- d. Source - Mode of transmission - New host.

9.7. From the list below, select the three principal methods for controlling communicable diseases.

- a. Preventive measures.
- b. Supervision of local sanitation services.
- c. Control of patient, contacts, and immediate environment.
- d. Control of hosts, contacts, and ultimate environment.
- e. Endemic measures.
- f. Epidemic measures.
- g. Regional isolation.
- h. International measures.

9.8. Match each communicable disease control method in Column A with an example from Column B.

A - Methods	B - Examples
____a. Control of patient, contacts, and immediate environments.	1. Report to local health authority, investigation of contacts and source of infection.
____b. Epidemic measures.	2. Intensification of case finding and systematic spraying of houses with DDT.
____c. International measures.	3. Control of fish or fish products imported from endemic areas.

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KEY TO FINAL TEST

9.1. 2 a. (par 2); 1 b. (par 3); 3 c. (par 4).

9.2. T a. (par 3,4); F b. (par e); T c. (par 2);
T d. (par 3); F e. (par 1); T f. (par 1);
T g. (par 1).

9.3. a 1. (par 2); b 2. (par 3); a 3. (par 2);
c 4. (par 4); b 5. (par 3); c 6. (par 4);
a 7. (par 2); b 8. (par 3); c 9. (par 4);
a 10. (par 2).

9.4. 2 a.; 7 b.; 1 c.; 3 d.; 5 e.; 4 f.; 6 g.

(par 5.)

9.5. 2 a.; 3 b.; 1 c.; 4 d.; 5 e.; 6 f. - par 6.

9.6. d. (par 7.)

9.7. c., f., h. (par 8.)

9.8. 1 a.; 2 b.; 3 c. (par 8.)

STUDY GUIDE AND WORKBOOK 3ABR90230-II-2

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

10-10
Block II

DIETS

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-II-2
July 1975

DIETS

OBJECTIVES

a. Select facts and terms related to basic nutrition and nutrition and diet therapy.

b. Identify factors involved in safely and tactfully serving a food tray and assisting a patient to eat.

INTRODUCTION

Eating can be and should be fun. We especially enjoy it if it can be done in a place which is comfortable and pleasing to us and if we can eat our favorite foods skillfully prepared. Modern science has proven to us that we need a variety of foods to build healthy bodies and keep them that way.

Our eating habits are taken to the hospital when we become patients. Hospital food services attempt to provide for patients likes and dislikes as well as a good balanced diet. This is relatively easy when a patient is able to eat normally. However, in cases where his appetite is poor, some of his body systems are working poorly, or when his digestive tract must be rested, adequate feeding becomes more complicated.

Some of you have studied nutrition before. For you, this will be a review with added material to help you adapt what you know to your new job. For others, this lesson is designed to give necessary information to understand the importance of diet and to identify your role in seeing that your patient gets what he needs to eat.

INFORMATION

DIET THERAPY

1. Basic Principles of Diet Therapy.

a. Develop a clear understanding of basic terms.

(1) The word DIET has a variety of meanings, depending upon how it is used. To some it may mean the food and beverages which are consumed everyday. Some may have tried to lose weight and considered themselves to be on a "diet". In therapeutic or medical terms, the word DIET refers to a prescribed allowance of food adapted for a particular state of health. If someone is ill it may mean eating specially selected food items or specially determined amounts of food.

(2) It is customary for the physician to include the diet in his orders for a hospitalized patient. This is his prescribed type and allowance of food adapted to the patients's particular state of health.

(3) NUTRITION is the science concerned with the use of food by the body to (1) provide energy, (2) build and replace tissue and (3) regulate body processes. Nutrition refers to the state of the body as a result of the food consumed.

(4) Almost every illness takes a nutritional toll on the body. Therefore, the amount, the contents, or the consistency of a diet may have to be adjusted to the patient's particular need or to his tolerance.

This supersedes SW 3ABR90230-II-5, January 1975

In therapeutic or medical terms the word DIET refers to: ______________________________

____

NUTRITION is the science concerned with the use of food by the body to:

(1)____

(2)____

(3)____

b. NUTRIENTS.

(1) Nutrients are substances found in food and used by the body to provide nutrition. The entire theory of therapeutic diets is based upon the use and balance of basic food nutrients.

(2) A description of these nutrients are as follows:

(a) Carbohydrates. Carbohydrates are sugars and starches. They are used by the body to, 1. Provide fuel for quick energy. 2. Provide fuel for heat. Excellent sources of carbohydrates include: breads, sugar, cereal, sweets etc.

(b) Fats. Fats are organic compounds which are insoluble in water. Their functions in the body are to, 1. Provide fuel for energy, 2. Builds fatty tissue which serves as padding around vital organs to protect against injury and cold. 3. Lubricate the intestinal tract to help in elimination. Some sources of fats are: butter, cheese, cream, and meat fat.

(c) Proteins. Proteins are the most important of all food substances. They are used by the body to, 1. Build and repair body tissues, 2. build blood and form antibodies to fight infection. 3. Supply energy. Excellent sources of proteins are: Meat, fish, poultry, eggs, milk, cheese, beans, peas, nuts, and cereal.

(d) Minerals. Minerals are chemicals which are necessary for normal cell structure and function. Many minerals are needed by the body. Three very important minerals are:

1 Calcium helps, 1. build strong teeth and bones, 2. helps muscles and nerves to respond properly. Sources are: turnips, greens, broccoli, milk and milk products.

2 Iron helps in the formation of hemoglobin which carries oxygen to all body cells, Sources are: liver, eggs, dried beans, green leafy vegetables, and prunes.

3 Iodine is necessary for the proper functioning of the thyroid gland. Sources are: seafoods, iodized salt.

(e) Vitamins. Vitamins are regulating substances which are necessary in small quantities for good health and growth. The body cannot store most vitamins therefore an adequate daily supply is essential. A suffient daily supply of vitamins will help, 1. Keep the body resistant to infection, 2. prevent night blindness and promote healthy eyes, 3. control bone growth. Good sources of vitamins are: Liver, eggs, dark green and deep yellow vegetables, butter, whole milk, and citrus fruits.

(f) Water. Water or liquid from other beverages is needed to maintain normal fluid levels within the cells of the body. Water is lost through the removal of waste substances coming from the cells and bloodstream and passed from the body as urine. Water is also lost through perspiration and respiration (breathing). Water functions within the body to allow vital chemical changes to take place. No organ in the body can function without water. Water is also necessary in the control of body temperature. Good sources of water are: Drinking water and other liquids and very small amounts from foods.

c. "Basic Four" Food Groups.

Foods have been divided into the "Basic Four" for a general guide to menu preparation. A diet which contains the recommended items from each food group will afford a good balance of nutrients. Also, adequate vitamins and minerals will be supplied.

(1) Dairy Foods. Excellent sources of dairy foods are: Milk, ice cream, custard, cottage cheese. The recommended adult requirement is 2 to 4 cups of milk or alternate per day.

(2) Meat Group. Sources are: Meat, fish, eggs, poultry, dry beans, nuts. The recommended adult requirement is 2 or more servings of meat or alternate per day.

(3) Fruit & Vegetable Group. Sources are: Dark green or deep yellow vegetables, and fruits. The adult requirement is 4 or more serving per day to include a dark-green or deep-yellow vegetable at least every other day.

(4) Bread & Cereal Group. Sources are: Breads, cereal. The adult requirement is 4 or more serving per day.

d. Common Hospital Diets.

Many patients are able to eat everything in a normal diet. Others will have dietary restrictions made necessary by the nature of their illness. Some patients will have special preferences due to their personal eating habits. Normally the physician will determine what type of diet his patient will receive and he will enter it on the "Doctors Orders" when the patient is admitted. Keep in mind that the type of diet can be changed by the physician depending upon the progression or the condition of the patient.

(1) Regular Diet. The patient is allowed to all foods. Chewing and digestion are not a problem.

(2) Soft Diet. Includes soft textured and semi-solid food and liquids. This diet can be easily eaten and easily digested. This diet might be used by the post-operative patient as a step toward taking a regular diet.

(3) Liquid Diet. This diet is easily taken by the patient who is unable to chew. The liquid diet consist of liquids only and may be entirely of clear liquids such as tea, jello, soft drinks or clear broth or it may be of full liquids where custard, cream soup, ice cream, and juices are also allowed. This diet might be used by the post-operative patient as the first step toward taking solid foods. It might also be given during acute illness when it would be easily tolerated by the body processes or when irritation of the intestional tract is present.

(4) Bland Diet. This diet is designed to prevent stimulation of peristalsis and the flow of gastric secretions. It is used in the treatment of ulcers, diarrhea and inflammation of the colon. Spiced and salty foods, tea and coffee are not allowed. Pureed vegetables and fruits, strained cereal, eggs and tender meats are usually recommended.

(5) Low Sodium Diet. The low sodium is one which, while otherwise normal, has a decreased sodium (salt) content. It is given to patients with cardiovascular diseases and certain kidney diseases. It is designed to relieve fluid retention, which causes edema (accumulation of fluids in body tissues causing swelling) by allowing fluid to flow back

into the blood where it can be excreted. No salt is used in cooking this diet and no salt is added when it is eaten. Salt substitutes may be used when permitted by physician.

(6) Fat Restricted Diet. This diet is used by patients with arteriosclerosis, liver or gall bladder disease. The liver produces and the gall blader stores and secretes bile which is needed by the body to digest fats. It consists of food low in fat content. Examples are: Skim milk, broiled lean meat, jelly instead of butter. However, since your body needs fats usually one pat of butter may be allowed at each meal.

(7) Diabetic Diet (low-carbohydrate diet). Diabetes mellitus is a disease of metabolism in which the body is either partially or completely unable to use sugar because of the failure of the pancreas to produce enough insulin which regulates the amount of sugar used by the body tissues. The diabetic diet is modified so that no more carbohydrates are given than are necessary for the patient to maintain health and carry on normal activities.

QUESTIONS

1. What is the therapeutic meaning of DIET?

2. Nutrients are used by the body to provide what?

3. Match the name of the nutrient on the left with its function on the right.

____ Carbohydrates.	a. Builds and repairs body tissues.
____ Fats.	b. Helps body resist infection.
____ Proteins	c. Provides fuel for quick energy.
____ Minerals.	d. Allows vital chemical changes to take place within the body.
____ Vitamins.	e. Chemicals necessary for normal cell structure and function.
____ Water	f. Builds fatty tissue which protects vital organs against injury and cold.

4. What are the "Basic Four" food groups? Also give at least one example of each.

a.________________________ Examples:________________

b.________________________ Examples:________________

c.________________________ Examples:________________

d.________________________ Examples:________________

5. What is the purpose of the "Basic Four" food groups?

6. Match the Common Hospital Diet on the left with correct statement on the right.

____ Regular Diet	a. Might be used by the postop patient as a step toward the regular diet.
____ Soft Diet.	b. Used by the postop patient or the acutely ill patient as the first step toward solid food.
____ Liquid Diet.	c. Designed to relieve fluid retention.
____ Bland Diet.	d. Used when eating and digestion are not a problem.
____ Low Sodium Diet.	e. Used by patients with liver or gall bladder disease.
____ Fat Restricted Diet.	f. Used in treatment of ulcers and diarrhea.

2. Factors involved in safely and tactfully serving a food tray and assisting a patient to eat.

a. Prepareing The Patient For Food Service.

(1) The patient should be comfortable, relaxed and prepared for the meal before the meal arrives. You should begin preparing the patient as early as necessary depending upon the number of patients that will require help.

(2) It is best to avoid all treatments during mealtime. Treatments should be completed before the meal arrives whenever possible. Next, tend to the elimination needs of your bed patients. Normally this is done by simply offering a bedpan or a urinal. Always provide the bedpatients with a means of washing their hands whether they have used the bedpan or not. Clear the bedside stand or the over-bed table. This will make your job easier later when you return with both hands holding the food tray. Position the patient so that he will be comfortable while eating. Before this is done you must insure that the doctor will allow the patient to be moved by checking the doctors orders or by checking with the nurse. Tuck a hand towel under his chin across his chest if needed. This will help keep the patients pajamas and bed clean.

b. Preparing And Serving The Food Tray.

(1) Use of the food cart will be demonstrated in class. The cart you will see is the same as those used in most Air Force hospitals.

(2) The cart is designed to keep warm food warm and cold food cold, therefore, it must be plugged into a electrical outlet as soon as it arrives on your ward. Wash your hands before starting. Inspect food trays for cleanliness as they are removed from the cart. Do not smoke while setting up or serving food trays. Follow the ward diet list. This is kept on the ward and should be taken to the food cart when trays are being served. This will help insure that the right patient receives the right diet. It is the responsibility of the ward nursing personnel to insure that the patient receives the correct tray with the correct diet.

(3) You may have to remove items from some trays. For example, on a diabetic

diet the individual sugar packets may have been overlooked by the dining service personnel and you should remove them before taking the tray to the patient. On a low sodium diet all salt should be removed, on a bland diet all salt and pepper is removed, and on a fat-restricted diet all butter is removed unless otherwise ordered by the doctor. Sometimes doctors will allow one pat of butter on some fat-restricted diets. You should verify this before serving a fat-restricted diet.

(4) The ward nursing personnel take the food tray from the food cart to the patient and return it when the patient is finished eating. The tray should be placed in a convenient position to the patient and, if necessary, the MSS should insure that everything is ready for eating (cut food, butter bread, open containers and etc.) before leaving the patient alone.

(5) Food trays in most Air Force hospitals are usually served in the following order. First serve bed patients who are able to feed themselves. Next, serve the ambulatory patients. And finally, serve trays to helpless patients only when someone is available to feed them. The food cart will not always be set up in this order so if some trays are skipped and left in the cart it would be very easy to become confused and serve patients the wrong diet. The MSS should insure that this does not happen by carefully checking all trays before they are taken from the cart.

c. Feeding The Helpless Patient.

(1) Some patients, because of their illness or injuries, will require help when eating. This is the responsibility of the ward nursing personnel. In most cases if you treat the patient as you would like to be treated yourself you will have no trouble and the patient will look forward to the mealtime as an enjoyable part of the day. This is also a good opportunity for you to observe and communicate with the patient.

(2) Place the tray in a convenient position for you and the patient, where the patient can see the food. Do not show signs of being in a hurry. Sit down if you can reach the patients mouth while seated. Give the patient all your attention as you feed him. Feed the patient in the order in which he like to be fed. Encourage the patient to participate by holding an item such as bread if he is able. Feed him slowly; offering small amounts of food. Allow him sufficient time to chew and swallow the food. Don't forget to offer fluids during the meal. If the patient is inclined to talk, talk with him. As was already stated, this is an excellent time to communicate with and observe your patient. When he is finished, remove the tray and make him comfortable. Place the signal cord within his reach before you leave.

d. Feeding The Blind Patient.

(1) Feeding the blind patient is much the same as feeding the helpless patient except the main objective is to teach the patient to feed himself.

(2) Before you start, tell the patient what is on the tray. As you feed him, tell him what you are offering, whether hot or cold and whether it is in a spoon, cup or drinking tube. Allow the patient to participate by holding something he is eating such as a piece of bread.

(3) If the doctor permits, start the patient toward helping himself. If this is allowed you should always set the tray in the same place and the dishes on the tray in the same order. Always place the same type of food in the same clockwise position on the plate and tell the patient its position. Example: potatoes at 1 o'clock, meat at 5 o'clock, vegetables at 9 o'clock, salad is beside plate at 10 o'clock and milk is beside the plate at 2 o'clock. Fill cups and glasses only half full to help avoid spills. Avoid commenting on foods spilled.

(4) Go slowly--help him by degrees; a little progress each day will help build

his confidence. Praise him for his progress. Stand by until he is sure and confident of himself.

e. Collecting Trays

Remember this is the responsibility of the ward nursing personnel. Do not remove the trays until the patient is finished; do not rush him. Give him time to enjoy his food. Record fluid intake, if required. Notice how much the patient has eaten; report to the nurse if he has eaten very little. For some special diets, the uneaten food may have to be weighed and measured. Ask the nurse whether this is required. Before you leave make the patient comfortable.

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CHECKLIST 3ABR90230-VI-1c

DIET THERAPY

	POINT VALUE	SATISFACTORY UNSATISFACTORY
1. Prepare the patient for the meal. (Greet the patient, offer bedpan, urinal, wash face and hands)	25	
2. Roll the patient up in bed. (If permitted)	5	
3. Wash hands.	10	
4. Remove tray from foodcart. (Hotside/Coldside)	5	
5. Identify correct tray. (With diet request)	25	
6. Serve the patient's tray. (Identify the patient, feed if necessary.)	5	
7. Remove tray from patient's room. (Check the patient's I&O is applicable)	5	
8. Make the patient comfortable.	5	
9. Place the tray in foodcart. (Hotside/Coldside)	5	
10. Wash hands (Simulate)	10	
TOTAL	100	

Students must correctly accomplish 60% of items on the checklist.

ATC-SHEPPARD AFB TEX. 76-80

STUDY GUIDE AND WORKBOOK 3ABR90230-II-3

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

COMFORT AND HYGIENE

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

SW 3ABR90230-II-3
July 1975

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

COMFORT AND HYGIENE

OBJECTIVES

a. Select the nursing procedures and terms related to the comfort and personal hygiene of a patient.

b. Given instructor and guidance and necessary equipment, correctly provide routine morning comfort and hygiene measures for a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-II-3b must be accomplished.

c. Given the necessary linen, corrextly make a closed hospital bed. Sixty-five percent of the items on checklist 3ABR90230-II-3c must be accomplished.

INTRODUCTION

Did you ever feel so sick that you preferred not to move very much? Perhaps you were weak and tired easily. Your mouth soon tasted bad unless you were able to wash it out. If you had a fever and perspired a little, you may have sensed discomfort due to feeling unclean or sensed prespiration odor. This situation was not pleasant and you would usually not want to be seen in this condition by your latest "steady" or your fiance. A number of your future patients will have days when they just can't quite handle their own daily hygiene. Nursing service personnel assist patients to maintain cleanliness and good grooming while they are unable to complete these tasks themselves. Your courteous assistance will make your patients feel better, look better and prevent them from feeling embarrassed before their friends, relatives, and other hospital personnel.

INFORMATION

IDENTIFY FACTORS RELATED TO ELIMINATION NEEDS

When a patient is very weak or is confined to bed it will be necessary for the MSS to assist the patient with elimination needs. Before responding to the patient request you must know what orders have been written.

Check the doctors order sheet for:

1.

2.

Supersedes SW 3ABR90230-I-9, April 1974.

3.

4.

If the patient has permission to go to the bathroom, determine his physical strength. You may just walk with the patient to be sure he does not fall, or you may need to actually physically help him to walk. It is possible to move the patient from his bed to the bathroom by wheelchair. The key word is safely assist your patient. Stay with the patient if he is weak, or wait just outside of the door so that he can call you if help is needed. In all cases be sure that the patient knows where the nurses call bell is located so that he may call for assistance.

Procedure For Administering A Bedpan

Procedure	Rationale
a. Obtain bedpan and toilet tissue from bedside stand.	Individual sets of utensils are provid d for patients upon admission.
b. Bedpan is kept covered at all times when not in use.	Uncovered bedpans are distasteful to both patients and staff. In most hospitals a tissue paper bag is used as a bedpan cover.
c. Warm and dry bedpan.	Metal utensils can be cold and uncomfortable for the patient. Warm bedpan by running warm water over it, then dry.
d. Screen patient.	Close room door or bedside curtains to provide privacy. Most patients are self-conscious and embarrassed about using a bedpan.
e. Ask patient to raise hips by flexing knees and digging heels into mattress.	This is the most comfortable method for the patient and allows him to assist with the procedure. Steps e and f should be accomplished as one smooth continuous step.
f. Support lower back with one hand and slip bedpan in place with the other hand.	
g. Alternate method if patient is unable to lift his hips. Turn patient on his side, place bedpan against buttocks, turn patient back upon bedpan. Center patient on bedpan.	Use alternate method if patient is very weak or unconscious. If necessary, obtain help to properly move and position patient.
h. Raise head of bed unless ucontraindicated.	Reduces strain on the patient's back.

i. Give patient signal cord, toilet tissue and leave room.	Be sure patient can easily reach toilet tissue and signal cord. Answer signal promptly.
j. When patient is finished, remove bedpan, cover, and place on chair.	Never place bedpans on overbed table or on top of bedside stand. These areas are used for clean items such as dressing sets and food trays.
k. For the patient unable to cleanse himself, ask patient to turn on his side off the bedpan; use toilet tissue to clean patient.	Always leave the patient clean and dry tc prevent skin breakdown and provide patient comfort.
l. Have patient wash his hands.	Provide soap, water, and towel. Encourage good health habits.
m. Take bedpan to utility room or bathroom to clean.	Note amount, consistency, color, odor, or unusual appearance of contents before cleaning. Clean, dry, and cover before returning to bedside stand.
n. Return bedpan to bedside stand.	
o. Wash your hands and chart as necessary.	Maintain standards of cleanliness; prevent cross-infection. Chart as necessary on I and O sheet and nurses notes.

Procedure For Administering A Urinal

Procedure	Rationale
a. Warm and dry urinal	The rationale for administering a urinal is essentially the same as for the bedpan procedure.
b. Screen patient.	
c. Lift bed covers at side of bed and place urinal upon bed.	
d. Let patient place urinal himself if possible - if not, place urinal for the helpless patient.	
e. If patient may stand assist him. If unable to stand, prop him up high in bed.	Check doctor's order before allowing patient to stand.
f. Place signal cord within reach of patient and leave room.	Remain with the patient who is out of bed and is too weak or ill to be left alone.
g. Remove urinal.	
h. Have patient wash his hands.	
i. Empty, clean, and return urinal to bedside stand.	
j. Wash your hands and chart as necessary.	

Collecting Specimens.

Laboratory studies of specimens provide valuable information about the patient's condition. For example, stool specimens may be used to help identify intestinal or stomach hemorrhage; gallbladder disturbances, or parasites in the blood stream. Specimens of blood, urine, gastric contents and spetum are other types of specimens that may be collected.

A specimen may be defined as body tissue or secretion which is examined for diagnostic purposes.

The Medical Service Specialists' role in this procedure is a vital one. If specimens are improperly collected or labeled, the patient's diagnosis and treatment could be delayed.

Procedure For Specimen Collection

Procedure	Rationale
a. Check the laboratory request carefully.	Identify the correct patient and the type of specimen required.
b. Select the type of container currently recommended by your laboratory.	Some specimens may require a sterile container or a container with preservatives added.
c. Label the container with: Patient's name Hospital number Date Type of specimen	This is the minimum required information for ALL specimen labels. In some cases the exact time of collection must also be added to the label.
d. Explain to the patient that a specimen has been ordered.	The patient's cooperation is essential. Instructoons should include preparation, time of collection, container to be used, etc.
e. Instruct the patient regarding his responsibility in giving the specimen.	
f. Attach laboratory request to specimen container and take specimen to laboratory as soon as possible (ASAP).	Some specimens, such as stools for ova and parasites, must be taken to the laboratory while still warm.

IDENTIFY PRINCIPLES AND PROCEDURES RELATED TO ORAL HYGIENE

Oral hygiene may be defined as the cleansing and care of the lips, gums, teeth, and tongue.

There are six basic purposes for performing oral hygiene.

1.

2.

3.

4.

5.

6.

Routine Oral Hygiene

For the average patient routine oral hygiene is provided each morning, evening, and after every meal. If the patient is able to help himself arrange the necessary equipment within reach. Be sure the patient is in a comfortable position and allow him to complete the procedure.

In some cases you will be required to assist the patient with oral hygiene.

EQUIPMENT NEEDED

- Toothbrush, toothpaste
- Cup of water
- Emesis basin (curved basin)
- Towel

Procedure	Rationale
a. Assemble equipment.	
b. Explain procedure to the patient.	

c. Elevate the head of the bed if tolerated.	Elevate to a comfortable position for the patient.
d. Moisten toothbrush and apply toothpaste.	Do not put an excessive amount of toothpaste on the brush. It may be difficult for the patient to rinse his mouth thoroughly.
e. Brush teeth.	Use towel as needed to protect patient.
f. Cleanse gums and tongue gently.	
g. Rinse mouth.	
h. Clean and replace equipment.	
i. Make patient comfortable.	

Special Mouth Care

Special mouth care is just what the name implies - special oral hygiene for a patient with a diseased mouth or condition requiring special care. For example, the unconscious patient, a post-operative dental patient, or a patient who is unable to eat or drink fluids.

Special libricants and solutions other than toothpaste are required for this procedure.

EQUIPMENT

- Suggested Solution: Half strength hydrogen peroxide (dilute to half strength with water and use to remove dried mucus or blood).
- Lubricants: vaseline, glycerine, or lemon or glycerin swabs (used to clean and soften).
- Tongue blades covered with gauze, cotton tip applicators
- Emesis basin
- Towel

Procedure	Rationale
a. Use tongue blades to hold mouth open if necessary.	Avoid the use of force. Gauze around tongue blade provides protection.
b. Cleanse teeth, gum, tongue, and inner surfaces of mouth with cotton tip applicators dipped in special solution.	Use a new applicator for each section of the mouth.
c. Apply lubricant to lips with applicator.	To prevent cracking.
d. Make patient comfortable.	
e. Remove and clean equipment.	

Denture Care

Dentures should be cared for as often and in much the same manner as natural teeth. If the patient is able to do routine o-al hygiene, you will assemble the necessary equipment and allow the patient to clean his own dentures.

It may be necessary for you to clean the patient's dentures as part of his routine oral hygiene.

EQUIPMENT

- Denture cup
- Denture powder or denture cleaning solution
- Toothbrush
- Mouthwash
- Emesis basin

Procedure	Rationale
a. Explain procedure to patient.	
b. Place dentures in denture cup and take to utility room or bathroom.	The patient may remove his dentures and place them in the cup.
c. Brush teeth over sink.	Use denture powder and running water. Care must be taken not to drop dentures into the sink.
d. Return dentures to patient. Allow patient to rinse his mouth with mouthwash.	
e. Replace dentures.	The patient may prefer to do this.
f. Clean and replace equipment.	

IDENTIFY THE FACTORS AND PROCEDURES RELATED TO AM AND PM CARE

AM Care

Early morning care, (AM care), is performed to refresh the patient after sleep and to prepare him for his breakfast. The patient who cannot get out of bed will need assistance to be comfortably and adequately prepared for breakfast.

EQUIPMENT. Same as for oral hygiene plus wash cloth, towel, soap, and wash basin.

PROCEDURE

a. Offer bedpan or urinal

b. Assist with oral hygiene

c. Wash and dry face and hands

d. Offer assistance or allow patient to comb his hair if desired.

PM Care

Evening care or PM care as it is often called is designed to help prepare the patient for a restful sleep.

Purpose

a.

b.

c.

d.

EQUIPMENT

- AM care equipment
- Backrub lotion

PROCEDURE

a. a. Assemble equipment

b. Explain procedure to the patient

c. Screen patient and fold back spread and blanket.

d. Offer bedpan or urinal as needed.

e. Give oral hygiene, and wash hands and face as needed (as in AM care).

f. Remove pajama top, wash back and give backrub.

g. Replace pajama top and top covers.

h. Straighten and tighten foundation linen, brushing away crumbs.

i. Fluff pillow.

j. Bring bedside table close to patient's bed and attach call bell.

k. Give fresh drinking water.

l. Supply extra blanket if patient so desires.

Procedure for Backrub

Procedure	Rationale
a. Lower bed.	
b. Remove pillow.	
c. Remove pajama top.	

d. Place patient in Sims or prone position.	
e. Place bath towel on bed alongside back.	Protect bed
f. Pour a small amount of lotion in palm of one hand. Rub palm of hands together to warm lotion.	If not warmed lotion will be cold and uncomfortable for the patient.
g. Use a firm, gentle, circular, long, slow stroke.	To prevent decubitus ulcers.
h. Give special attention to pressure areas.	
i. Wipe off any excess lotion with bath towel.	
j. Replace pajama top.	

IDENTIFY PRINCIPLES RELATED TO THE CARE OF A DECUBITUS ULCER

A decubitus ulcer, also called a bedsore or a pressure sore, is a sore caused by pressure.

Continuous pressure on any part of the body will make a patient uncomfortable, slow circulation to that area, and may cause a decubitus ulcer. Areas usually affected include the shoulder blades, the elbows, the buttocks, the end of the spine, the heels, the back of the head, and any other bony prominence. The pressure of bed clothes on toes and legs, continually moist skin, lack of circulation to the affected area and poor nursing care are other causes of pressure sores.

Signs and Symptoms

- Blanching of the skin
- Patient complaint of numbness, tingling, or tenderness
- Bluish or mottled discoloration of the skin
- Skin breakdown
- Ulceration

Treatment and Prevention

The best treatment for a decubitus ulcer is PREVENTION. If proper nursing care is provided for all bed patients there is never an excuse for a decubitus ulcer to develop. Steps for prevention include:

- Daily skin inspection of all bed patients during bathing and PM care procedures
- Keeping the patient's skin clean and dry
- Frequent position changes

- Padding of bony prominences
- Stimulation of circulation

Once the skin is broken more vigorous methods must be used to treat the open wound. This includes prevention of infection, relief of all pressure on the area and following the doctor's orders for further treatment and medication.

IDENTIFY PRINCIPLES AND PROCEDURES RELATED TO BATHING A PATIENT

Bedbath

PURPOSES

- Cleans, relaxes, and refreshes the patient.
- Stimulates circulation and prevents decubitus ulcers or pressure sores.
- Aides in elimination of body wastes.
- Allows for observation of patient.
- Allows for time to communicate (establish rapport) with patient.
- May assist in teaching patient good hygiene.

EQUIPMENT

- Bath towel and washcloth
- Soap
- Backrub lotion
- Pajamas
- Bed linens
- Oral hygiene equipment

PROCEDURE

a. Assemble equipment.
b. Explain procedure to the patient.
c. Screen patient or close door and post "Do Not Disturb" sign.
d. Check room temperature.
e. Offer bedpan and/or urinal.
f. Give oral hygiene - Patient will do this if able.
g. Lower backrest.
h. Remove spread and blanket; cover patient with top sheet.

i. Fill bath basin two-thirds full of water 105° - 110°F.

j. Remove pajamas.

k. Remove pillow if condition permits.

l. Place towel under patient's head or lik [illegible] bib around neck.

m. Wash around eyes (no soap).

n. Wash face, ears, and neck with soap. Rinse and dry thoroughly and remove towel.

o. Place bathtowel under farm arm. Bring basin over and place hand in basin to soak. (Clean fingernails).

p. Wash axilla, arm, and forearm. Use long firm strokes. Remove basin, dry arm thoroughly and place arm under sheet if patient desires.

q. Repeat for near arm and hand.

FEMALE PATIENT

r. Drape chest with bath towel, wash, rinse, and dry chest under towel.

MALE PATIENT

s. Fold sheet down to waist, wash and dry chest.

t. Cover chest with face towel, cover abdomen with bath towel, fold top sheet to pubic area.

u. Wash, rinse, and dry abdomen.

v. Drape far leg with top sheet. Place towel under far leg, bend knee, place foot in basin.

w. Wash leg and foot using long firm strokes. Clean, trim and/or cut toenails.

x. Repeat for near leg.

y. Change water.

z. Turn patient on side or abdomen, place towel close to body. Wash neck, shoulders, back, and buttocks. Rinse thoroughly and dry.

aa. Wash, rinse and dry pubic area, exposing patient as little as possible. If the patient is able to wash himself, prepare the washcloth, give him the towel, and turn your back - or step out of screened area for a moment.

bb. Rub back with lotion.

cc. Help patient don clean pajamas.

dd. Comb hair.

ee. Make bed.

Making An Occupied Bed

DEFINITION.

- Bed made with patient in it usually includes changing all of the linen.

PURPOSE

- An occupied bed is made only when a patient cannot get up.

MATERIALS

- 2 sheets
- 1 bedspread
- 1 pillowcase
- 1 blanket (optional)

PROCEDURE. (After explaining to the patient what you are doing)

a. Lower bed and remove pillows if patient's condition permits.

b. Remove soiled pillowcase and place over back of chair.

c. Remove spread - discard in linen hamper or pillow case.

d. Fold blanket and place on chair.

e. Turn patient on side away from you.

f. Loosen foundation linen on near side and top.

g. Fanfold dirty bottom sheet to patient.

h. Tighten mattress cover to remove wrinkles.

i. Place clean bottom sheet on bed, center fold in center of bed, narrow hem even with foot of mattress.

j. Tuck sheet under the mattress, miter corner, tuck in at side of bed.

k. Turn patient on back or other side over fold of linen.

l. Go to other side of bed, remove dirty bottom sheet.

m. Pull clean bottom sheet across bed and pull tight.

n. Tuck in excess bottom sheet at top of mattress, miter corner, and tuck in at foot of bed.

o. Place clean top sheet on bed up to patient's chin. Pull soiled sheet off from foot of bed. (Ask patient to hold clean top sheet in place.)

p. Place top of blanket high beneath patient's chin.

q. Replace clean bedspread even with top sheet.

r. Tuck top of spread under blanket, fold sheet over blanket and spread.

s. Make pleat in sheet, blanket and spread over patient's toes. Tuck in excess at foot of bed. Miter corners.

t. Put pillow case on pillow and replace under patient's head, seam toward head of bed and open end away from room entrance.

u. Assist patient to a comfortable position.

v. Remove dirty linen.

IDENTIFY PRINCIPLES AND PROCEDURES RELATED TO MAKING AN UNOCCUPIED BED

A "closed" unoccupied bed is defined as a bed on the unit that has not been assigned but is ready for a new admission.

An "open" unoccupied bed is simply a bed made without a patient in it.

A properly made bed provides a clean, wrinkle free bed so that the patient may rest fomfortably.

Economy of time and motion are two things to keep in mind when making beds on the nursing unit. Two principles that will ensure saving time and extra motion are:

- Place linen on bedside chair in order of use.
- Make one side of the bed before going to the other side.

Keeping clean and dirty linen away from your uniform and off the floor is another basic principle. to remember. This principle prevents contamination and cross-infection. A final principle to remember is that linen should not be shaken or fanned. Shaking or fanning linen spread organisms and sheds lint.

EQUIPMENT

- Two large sheets
- One blanket
- One bedspread
- One pillowcase

Procedure	Rationale
a. Push mattress to head of bed.	
b. First side of bed:	
1. Apply the bottom sheet	
a. Even with the foot of the bed.	
b. Center fold in center of bed; flip excess to far side.	

c. Neatly miter the corner at the top of the mattress.

d. Tuck in along the side.

2. Apply the top sheet

a. Top of sheet even with the top of the mattress.

b. Center fold in center of bed; flip excess to far side.

3. Apply the blanket

a. Top of blanket six inches from top of mattress.

b. Center blanket so equal portions will hang on sides.

4. Apply the spread

a. Top of spread even with the top of the mattress.

b. Center fold in center of bed; flip excess to far side.

5. Tuck top sheet, blanket, and spread under the foot of the mattress.

Tuck all top layers of linen under foot of mattress at one time. Corners will be neater and economy of time and motion maintained.

6. Neatly miter the bottom corner.

7. Make one side before going to the other.

c. Second side of bed:

8. Fold back the spread, blanket and sheet.

9. Tuck the bottom sheet under the head of the mattress and neatly miter the corner.

10. Pull the bottom sheet TAUT and tuck it under along the sides.

11. Pull top sheet, blanket and spread to a smooth position on this side.

12. Tuck top sheet, blanket and spread under the foot of the mattress.

13. Neatly miter the bottom corner.

14. Place the pillow in the case, holding it away from your face.	
15. Place the pillow on the bed with the open end away from the door.	Presents a neat ward appearance.
16. Reposition bedside stand and chair.	

QUESTIONS

1. A specimen may be defined as body tissue or secretions which is examined for diagnostic purposes.

True
False

2. What information should be included on the label of a specimen container?

3. Explain the difference between croutine oral hygiene and special mouth care.

4. What is the purpose of AM care?

5. What is the purpose of PM care?

6. Identify four causes of pressure sores.

7. Name at least four purposes of the bedbath.

8. Explain the difference between a closed and open unoccupied bed.

9. List the equipment needed for a bedbath.

10. For what types of patient will you perform procedures such as oral hygiene, bedbath, and assisting with bedpan and urinal?

11. Why should you make one side of the bed before moving to the opposite side?

12. Name three ways to prevent pressure sores.

REFERENCE

AFM 160-34, Medical Airman's Manual, paragraphs 4-17 to 4-24.

CHECKLIST 3ABR90230-II-3b

ROUTINE AM COMFORT AND HYGIENE MEASURES

Note: 65 points = 65% or satisfactory score.

	POINT VALUE	CHECK ONE S	CHECK ONE U	REMARKS
1. Explain each major part of the procedure to the patient as it is performed.	5			
2. Administer Bedpan	10			
a. Correctly position patient				
b. Place signal cord within patient's reach.				
c. Place toilet tissue within patient's reach.				
d. Remove and replace bedpan.				
3. Provide Oral Hygiene	20			
a. Assemble equipment.				
b. Position patient.				
c. Brush teeth and rinse mouth.				
d. Clean and replace equipment				
4. Bed Bath	40			
a. Assemble equipment - bath equipment and bed linen.				
b. Prepare patient				
1. Remove pillow, top linens. Keep patient covered with top sheet, blanket if necessary.				
2. Remove pajamas.				
c. Perform Bath				
I. Order of bath				
face, ears, neck arms chest abdomen legs back, buttocks pubic area				

2. Allow patient to soak hands and feet.

3. Wash, rinse, and thoroughly dry all parts of the body.

4. Expose only that part of the body being bathed.

5. Change water after bathing feet and when water becomes dirty, soapy, or cool.

d. Perform Backrub

e. Replace pajamas

5. Occupied Bed	25		

a. Safely position patient

b. Bottom sheet

c. Top sheet, blanket, spread

d. Pillow

e. Soiled linen correctly disposed of

TOTAL	100		

CHECKLIST 3ABR90230-II-3c

CLOSED UNOCCUPIED BED

Note: 65 points = 65% or satisfactory score

		POINT VALUE	CHECK ONE S	U	REMARKS
1.	First side of bed correctly made.	20			
2.	Second side of bed correctly made.	20			
3.	Pillow	10			
	a. Open end away from door				
	b. Hold away from body				
4.	Linen is stacked in order of use	5			
5.	One side is made at a time.	5			
6.	Linen is kept away from body.	5			
7.	Linen is kept off of floor.	5			
8.	Did NOT fan or shake linen.	5			
9.	Mattress pushed to head of bed.	5			
10.	All corners are mitered.	5			
11.	Sheets are taut.	5			
12.	Top layers hang evenly.	5			
13.	Entire unit is neat and ready for patient	5			
	a. Bedside stand at head of bed				
	b. Chair replaced				
	TOTAL	100			

STUDY GUIDE AND WORKBOOK
3ABR90230-II-5

Technical Training

Medical Service Specialist

SURGICAL ASEPTIC TECHNIQUE

December 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
SHEPPARD AIR FORCE BASE, TEXAS 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-II-5
December 1975

SURGICAL ASEPTIC TECHNIQUE

OBJECTIVES

Select basic facts and principles related to surgical aseptic techniques (include sterilization of equipment and supplies).

Given the necessary equipment use the principles of surgical aseptic technique to change a surgical dressing on a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-II-5b must be accomplished.

INTRODUCTION

Through the past years the boundaries of medicine have filled a need only when the need arose. Recently, there have been other dividends, these dividends perhaps are not so easily assessed. The growth and development of medicine has improved and refined many procedures and techniques we will all participate in today, Surgical Aseptic Technique.

You, as a Medical Service Specialist, will be expected to perform procedures using SAT and you must know the principles necessary for performing these procedures.

This supersedes SW 3ABR90230-II-5, July, 1975

SURGICAL ASEPTIC TECHNIQUE

A thorough understanding of surgical aseptic technique is important to anyone who works in the health care field. It is based on the sterilization of equipment and supplies and includes the proper handling or use of sterile items.

1. Sterilization is the process by which all living microorganisms are destroyed.

a. The basic principles of sterilization are:

(1) Articles should have the properties which enable them to withstand the sterilization process. Sterilization is a grueling heat process. Temperatures run anywhere from 212°F. to 270°F. Therefore, some articles such as plastic catheters and thermometers could not withstand heat sterilization.

(2) Articles should be free from all foreign substances so that there will be contact between the sterilizing agent and surface of the article being sterilized. For example, some reusable articles such as hemostats or basins could have rust or blood crusted on them. This would be a barrier or obstruction to the sterilizing agent and sterility could not be guaranteed. The intense heat would also bake the undesirable substance on the instrument.

(3) Articles should be assembled and positioned so that the sterilizing agent can penetrate it thoroughly. The agent must be able to penetrate through the protective covering and surround the article being sterilized.

(4) Sterilizers and sterilizing agents should be checked periodically to determine their efficiency. In order to do this our lab department runs special tests (cultures) on the machinery and the end products of sterilization.

b. Methods of sterilizing

(1) Steam under pressure, or moist heat. The steam is put under pressure in an autoclave. When the temperature rises, it must reach between 250°F. to 270°F., and remain there for a given period of time. This steam must also have access to all articles placed in the autoclave. When the sterilizing cycle is through, a vacuum removes the steam and a drying cycle starts.

(2) Gas. Ethylene Oxide is the most common gas used in medical facilities for sterilization. Ethylene Oxide is a colorless gas. Its odor is similar to that of ether, and if inhaled for extended periods can be toxic.

(3) Choosing a method

So far in our studies we have learned what sterilization is and two different ways of sterilizing. As you can see, there is a difference between the two autoclaves, gas and steam. We now must decide which way is the right one for doing a specific job.

The steam autoclave is the more popular of the two methods mostly because of its lower cost. Steam also penetrates very rapidly and carries with it considerable heat. This heat is then transferred to the item being sterilized, contacting all parts, even those which cannot be disassembled. The steam is not toxic, and it leaves no residue.

Although steam has many advantages it does have some drawbacks. The intense heat produced will damage articles such as catheters made of plastic, thermometers, and other plastic devises. Glass, rubber and metals eventually deteriorate from repeated exposures.

Steam will not penetrate some materials such as oils, grease and powders. However, steam may be used for anything else.

Ethylene Oxide works along the same principle as chemical warfare. Chemical warfare was developed during WWII to help destroy the effects of biological warfare, or disease causing organisms, if used against the allies. The medical industry picked up the idea and developed a sterilization technique when the use of plastics and other synthetic products could not withstand the heat of steam sterilization.

The advantages of Ethylene Oxide as a sterilizing agent are prone to outweigh the disadvantages. It is effective against all types of microorganisms. It will not damage or corrode instruments. It penetrates through all types of dry material, such as powders. Lastly, it is not necessary to use high pressure or high temperatures, just time exposure.

The disadvantages of Ethylene Oxide includes the long exposure times required. It is expensive and articles such as rubber gloves and plastics absorb the toxic gas. Time must be given for the gas to dissipate before these articles can be used. This is known as "bleed off time."

Safety factors involving Ethylene Oxide are:

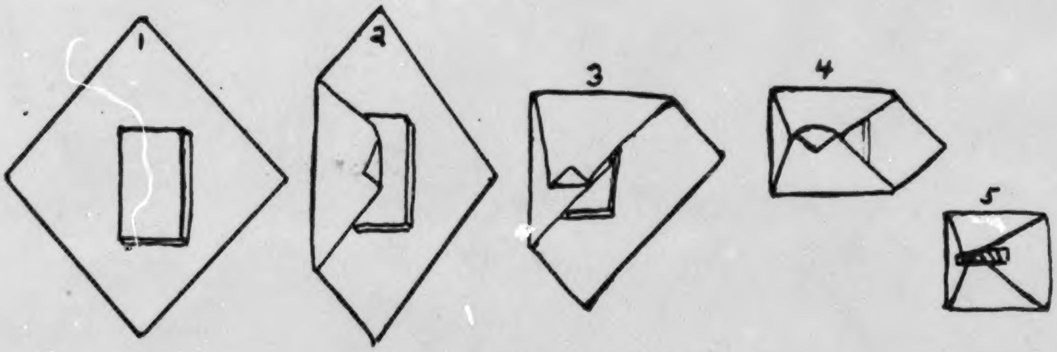
1. Direct contact will burn or blister the skin.
2. Highly flammable
3. Toxic if inhaled

Our discussion has centered itself around the kinds and methods of sterilization and their advantages and disadvantages. Now, we will emphasize the importantance of sterilization as related to care, preparation and processing of supplies and equipment for good patient care.

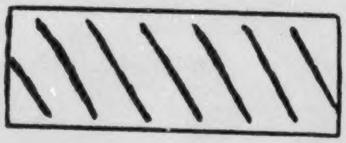
c. Personal preparation is important to you and to the people for whom you are preparing the supplies. Anyone who prepares sterile supplies should have good personal hygiene and wear a clean cap and outer garments every day. This will minimize the chance for air born and direct contamination of sterile packages.

d. Supply Preparation for Sterilization

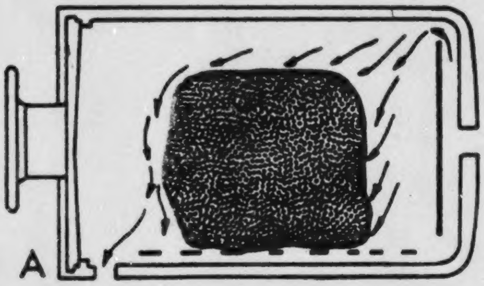
(1) Reusable supplies are the supplies which can be used and sterilized over and over again. Examples are hemostates, bedpan, urinals and other metal items. These items must be wrapped to prevent contamination after removal from the autoclave. The wrapper must be permeable to steam, impermeable to dust and a barier to microorganisms. Once a package is wrapped, its final cover is secured with autoclave tape and its contents listed on the tape.



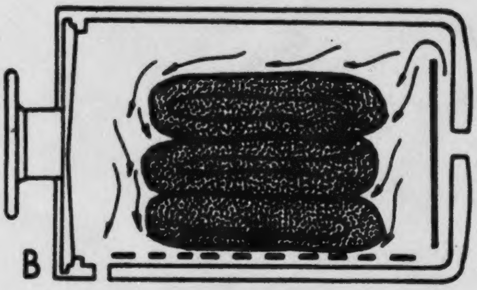
Autoclave tape exposed to steam will have brown strips on its surface due to the intensity of heat. Gas sterilizer tape is light green; dark green stripes appear on it after exposure. This does not mean the item is sterile: only that it has been exposed to the steam or gas. An item must be exposed for a given period of time in insure sterility.



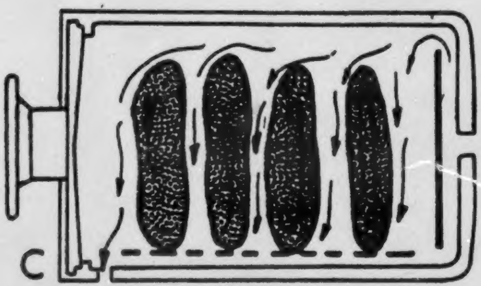
The packages we autoclave are of various sizes, the largest size we can safely autoclave and still insure sterility is 12" x 12" and 20". Studies have proven that sterility cannot be guaranteed for packages of larger size due to limited steam penetration. Care must also be taken to avoid packing the autoclave too tightly because it will limit exposure the same as a pack that exceed proper dimensions.



Proper placement of pack.

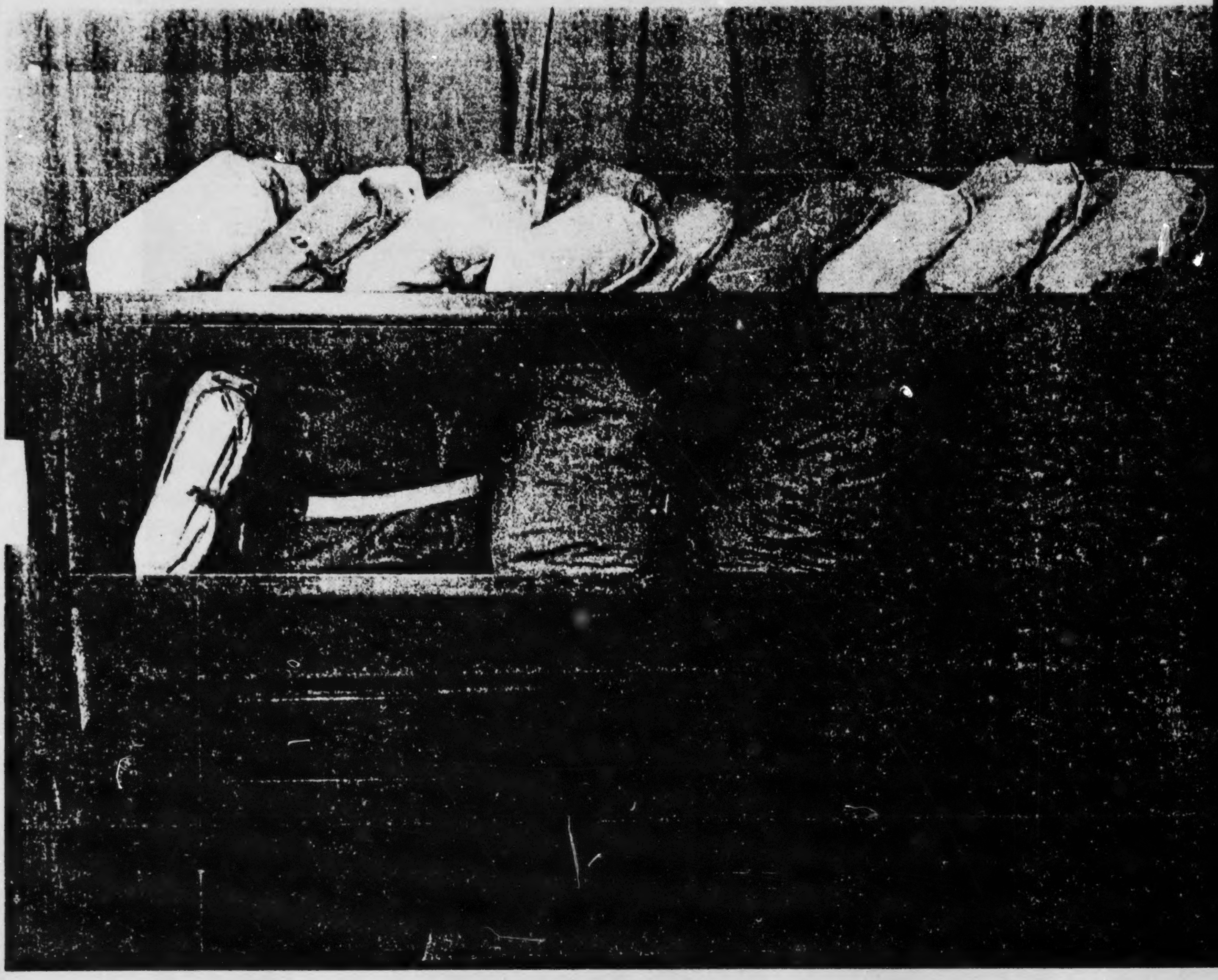


What is wrong with this picture?



Proper arrangement.

PLACEMENT OF PACKS IN AUTOCLAVE



(2) Most disposable or Ready Made Supplies are supplies which generally come sterilized from the manufacturer. Their sterility is guaranteed unless the package has been damaged or previously opened. The wrappers for these items is usually made of heavy paper or plastic and the sterility is guaranteed indefinitely. Check the package carefully before use to insure that the item is sterile.

The extensive use of disposable supplies has made it possible for the nursing staff to devote more time to nursing care and less time to caring for equipment.

e. Storage of Supplies

(1) Removal from the autoclaves

(a) Steam Autoclave. The loading of a steam autoclave is done on wire mesh trays to make the steam permeable to all sides of the pack. The packs are left in the autoclave throughout the entire cycle of the machine. When the drying cycle is done, the pressure will drop and the contents removed. The load will remain on the trays to help in cooling and drying. After drying completely they are ideally stored in a dust proof cabinet. As new supplies arrive, the older ones are rotated toward the front to insure their use before the expiration date. The expiration date is the day marked on the package to indicate the latest date the package may be used.

(b) Gas autoclave

1 After sterilizing cycle ends the articles must be given from 4-48 hours airing time (according to the item). Airing is done to remove any odor and traces of the gas left on the article which could be harmful to the patients. The CNS supervisor will recommend specific airing times.

2 Storing is done in the same manner as the steam autoclave.

QUESTIONS

1. Why is it important to clean instruments and equipment thoroughly before sterilizing them?

2. Name two common methods of sterilization.

3. What is the recommended temperature for steam sterilization?

4. Why is steam used more than gas for sterilization?

5. Why would steam not be used in some circumstances?

6. Name four advantages for the use of Ethylene Oxide as a sterilizing agent.

7. Name three disadvantages of Ethylene Oxide use.

8. How will you know that a package has been processed in the sterilizer?

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9. You have a large linen pack for the operating room which you have been asked to sterilize. You notice its measurement is 12" x 12" x 22". Should you attempt to steam autoclave this package? Why?

10. Why would it be desirable to use disposable products for patient care when possible?

11. Steam autoclaved supplies may not be stored until what has been accomplished?

12. How soon may items be used after gas sterilization?

2. STERILE PACK AND INSTRUMENTS

a. Principles guiding the use of sterile equipment.

(1) Handwashing is done before any sterile procedure is started. The accepted method is 2-4 minutes under running water with surgical soap. Phisohex or Betadine could be used as the soap.

(2) The working surface for handling sterile supplies must be clean and dry; ideally, should be waist high.

(3) Avoid opening the sterile pack until ready for use. After opening a sterile pack you remain with it to insure it is not contaminated, or cover the pack with a sterile towel and advise others.

(4) Touch only the outside of the wrapper when opening a sterile pack. The pack is not sterile on the outside. The inside is considered sterile and must remain this way. Use the folded back corners or tabs to open and expose the contents.

(5) When practicing the principle of S.A.T. we must keep in mind that only sterile articles can touch other sterile articles. Contaminated articles should never touch sterile articles, they can only touch contaminated ones and remain within the bounds of sterile technique principles. It is thus that we say, "sterile to sterile" and "contaminated to contaminated."

(6) Do not reach, talk, cough or sneeze over a sterile field. In doing any of these over a sterile field, gravity will pull microorganism from our hands, clothes, nose and throat down into the sterile field, contaminating it.

(7) If you have any doubt about the sterility of an object, discard it and get a new sterile pack. There is no need to take the chance of infecting a patient or breaking surgical aseptic technique. You may save a few cents on a pack and a few steps in neglecting to play safe. However, you may also add days to the patient's hospitalization and hundreds of dollars to the cost of treatment.

QUESTIONS

1. How should handwashing be accomplished before performing a sterile procedure?

2. What is important about selecting a work area for sterile equipment?

3. When should you open a sterile pack? (In comparison to its use)

4. How should you open a sterile wrapper?

5. What do we mean when we say the SAT procedures depend on "sterile to sterile" and "contaminated to contaminated?"

6. What is the purpose behind the principle "Do not reach, talk, or cough over a sterile field?"

b. Procedure for preparing a sterile field for a dressing change

(1) Roll sleeves, remove jewelry and wash hands.

(2) Examine packs prior to opening them.

(a) Check the packs for stains or moisture.

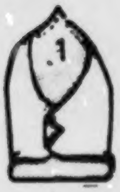
(b) Check for expiration date.

(c) Identify contents. Each pack must bear a label describing what it contains (marked on autoclave tape).

(d) Check for tape change.

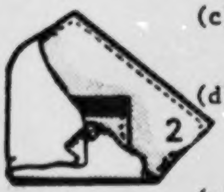
(3) Provide a clean, dry working surface.

(4) Open the dressing pack (sterile field).



(a) Remove the tape, pulling in the direction of the outside tip points. If the tape is placed across the tip hold the tip down and remove the tape.

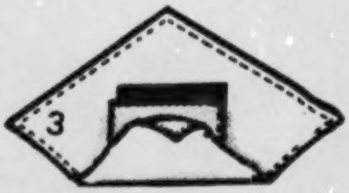
(b) Place the pack in the center of the working surface (or well back from the edge so that flaps will not fall below the working surface).



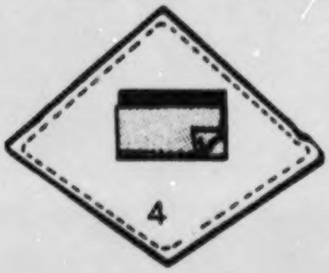
(c) Point the tip of the first flap away from your body. Pull tip back toward you to expose innerfold.

(d) Move around the working surface, pulling each cuff away from the center and touching only the outside of the wrapper (corner tabs). (Figure 2, 3, 4)

(e) DO NOT REACH OVER THE STERILE FIELD with a bare hand.



(5) Open the instrument pack by holding the pack in one hand and peeling back the tips of the wrapper in "banana fashion". Peel first tip away from you. Instructor will demonstrate this.



(6) Holding wrapper tips so that the wrapper covers your hand and forearm, drop the forceps onto the sterile field. Do not touch the sterile field.

NOTE: This is a procedure which is representative of those used with SAT. If you can open a sterile package, add needed items to a sterile field, and apply and use sterile gloves safely, you have mastered the principles. You should then be able to apply good SAT to each specific situation you need.

3. STERILE GLOVES

a. Procedure for donning sterile gloves

(1) Wash hands thoroughly.

(2) Grasping the flaps of the outer wrapper lift package up and away from body. (Fig 1)

(3) Peel each flap away from the center of the insert.

(4) Remove insert reaching from the side. (Check to make sure the fingers of the gloves are not extended below sterile wrapper). (Fig 2)

(5) Place insert on working surface, have the cuff opening pointing toward you.

(6) Open the insert and crimp or bend paper to insure insert will remain open. (Fig 3)

(7) Step back from sterile field and apply lubricating powder or cream to your hands.

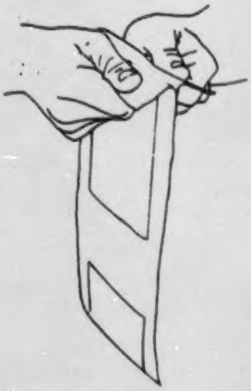


Fig 1

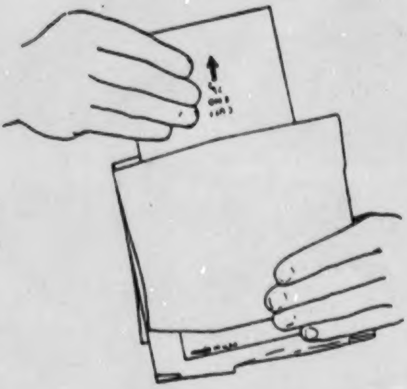


Fig 2

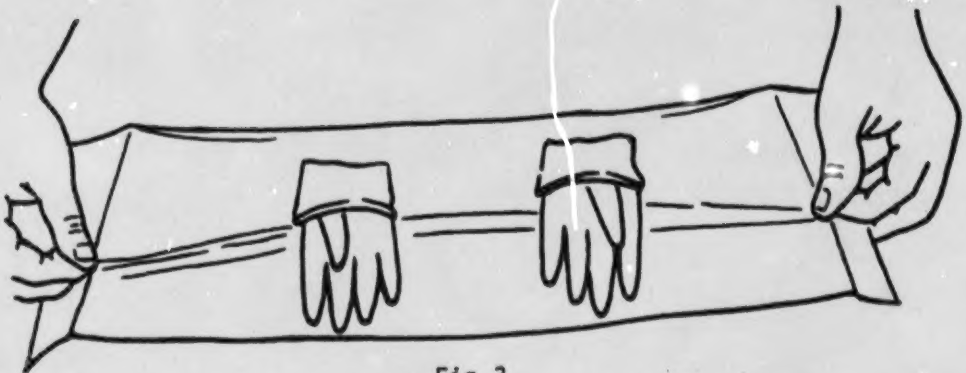


Fig 3

(8) Grasp the first glove (right or left) by the folded edge of the cuff. (Fig 4)

(9) Lift glove directly from the sterile field and step back.

(10) Pull glove on. Great care should be taken to maintain sterility. (Fig 5)

(11) Slide your gloved hand under the cuff of the second glove. (Fig 6)

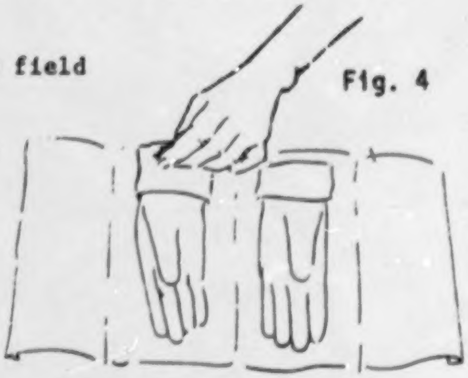


Fig. 4

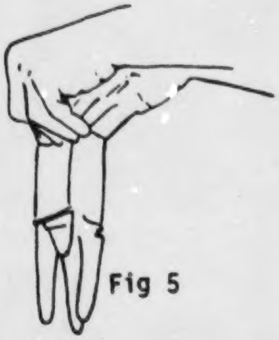


Fig 5

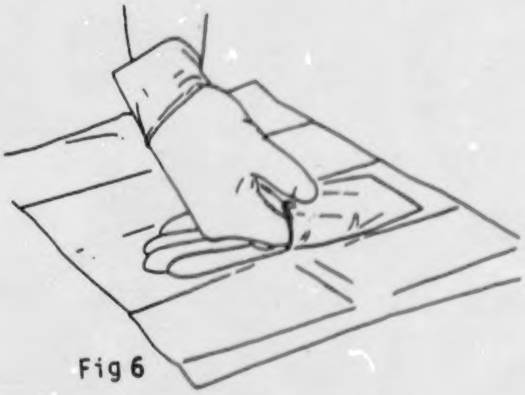


Fig 6

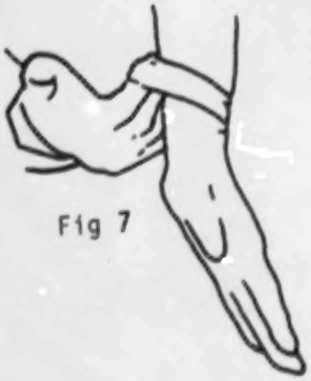


Fig 7

(12) Lift glove up and step back from field.

(13) Avoid touching the inside portion of the glove with the thumb of your gloved hand.

(14) Pull second glove on. (Fig 7,8)

(15) From this point on, touch only sterile objects, nothing below your waist on the working surface.

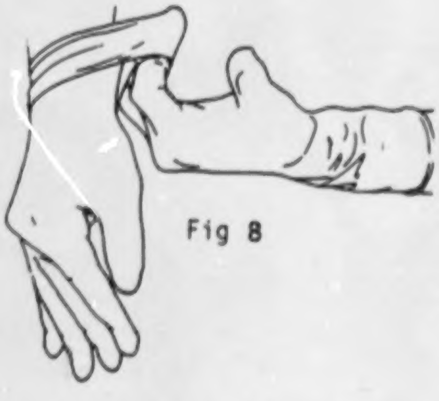


Fig 8

4. STERILE DRESSING APPLICATION

a. Types of surgical wounds

(1) Open wound treatment. An open wound is a wound (skin incision) that is left open for the purpose of drainage. The wound does not have to be infected to have drainage. The drainage could be blood or body fluids.

(2) Closed surgical wound treatment. Surgically closing the wound or incision with stitches or clips.

b. Dressing materials used in wound care

(1) 2 x 2s, 4 x 4s, and 4 x 8s. Primarily, these are used to clean incisions and dress small wounds.

(2) ABD Pads. These are used to cover gauze dressings which have been placed on large draining wounds. This pad is 1/4 inch thick and is very absorbent.

(3) Tape. Regular adhesive or nonallergic tape may be used as a bandage to hold these dressings in place.

c. Procedure for dressing change

(1) Wash your hands.

(2) Gather all the equipment.

(3) Explain procedure to the patient.

(4) Provide privacy.

(5) Expose the area of the wound

(a) Remove the old dressing by pulling the tape toward the wound from each side.

(b) Moisten the dressing with sterile saline solution if it has dried to the wound.

(c) Remove and dispose of the old dressing by placing in proper receptacle.

(6) Inspect the wound; observe for:

(a) Cardial signs of inflammation, ie - redness, swelling, pain and heat.

(b) Healing process

(7) Prepare the sterile dressing set up.

(8) Add instruments to field.

(9) Don sterile gloves.

(10) Clean the wound

(a) Use either an instrument or sterile gloves.

(b) Caution must be used to avoid contaminating sterile instruments or gloves.

(c) Use 2 x 2s or 4 x 4s.

(d) Use the solution ordered by doctor for cleansing.

(e) Clean the wound, using a single stroke along the incision.

(f) Change the sponge after each stroke.

(11) Reapply the dressing

(a) Dry dressing. This type of dressing is used to protect the patient from contamination.

(b) Bulky dressing. This type of dressing is used to absorb drainage. It consists of 4 x 4s, 4 x 8s, and ABD Pads.

d. Types of bandages

(1) Montgomery straps (Figure 2-3). Montgomery straps are adhesive straps which may be placed along the sides of a large wound area to hold a dressing in place. These straps should last through several dressing changes. Their use is intended to minimize skin irritation caused by frequent removal of adhesive tape.

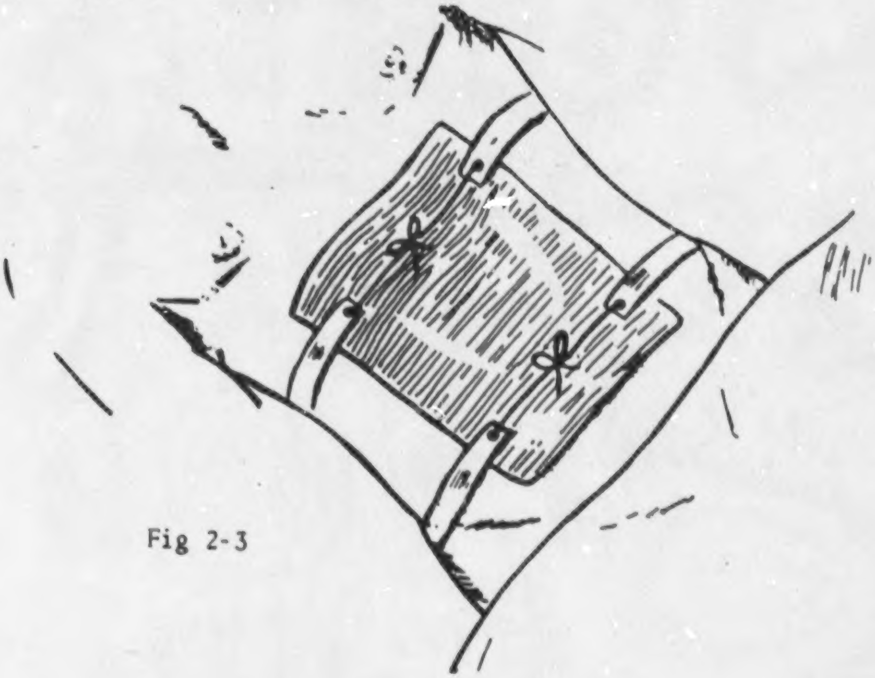


Fig 2-3

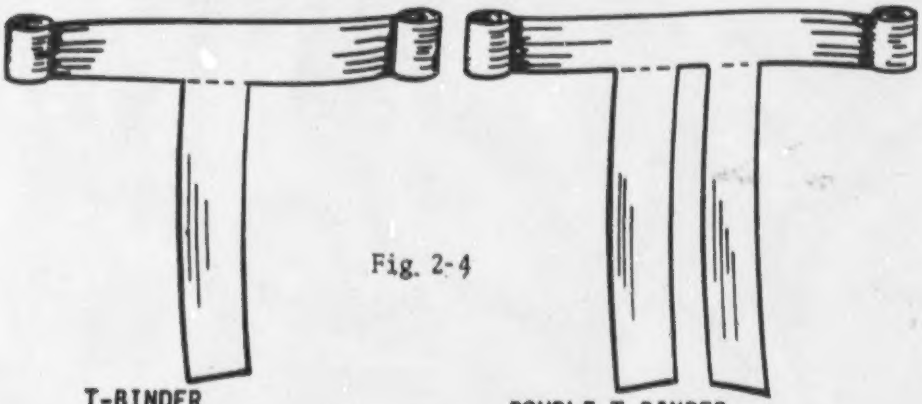


Fig. 2-4

T-BINDER

DOUBLE T-BINDER

(2) T-Binder (Figure 2-4). The T-Binder is used to keep dressings of the perineal area (genital or rectal area) in place after surgery.

In conclusion, you will find a variety of procedures and equipment used wherever you work. The material in this lesson has been developed to teach you basic principles of SAT and to provide you with knowledge of methods which offer maximum safety to your patient. It is not the intention of the School to say that every step in a procedure such as a dressing change must always be carried out with exact rigidity as described. When and if you do deviate from the procedures we have presented, be sure you do so upon medical advice. You should also seek to understand why you alter a particular technique. For evaluation purposes, instructors will insist that you follow the procedures presented in this course while you are a student.

QUESTIONS

1. What are Montgomery straps and when are they used?

2. What is a T-Binder? When would you use this type of binder?

3. What do you do when a dressing seems to be stuck to the wound?

REFERENCES

1. AFM 160-34, 1970 Chapter 4, para 35-43.

2. Sutton, Audry L. Bedside Nursing Technique, pages 112-127.

CHECKLIST 3ABR90230-II-5b

	Point Value	
1. Gather equipment: a. Sterile gloves b. Dressing pack c. Tape	5	
2. Wash and dry hands	5	
3. Provide privacy and explain procedure to the patient	5	
4. Expose only the area around the wound	5	
5. Remove dressing: Pulling tape ends towards the wound.	5	
6. Inspect the wound for redness, drainage and the healing progress	5	
*7. Open the sterile dressing pack and set up sterile field a. Date b. Usability	25	
*8. Don Surgical gloves, using SAT	25	
9. Take sterile gauze from pack and wipe powder from gloves. Discard gauze into waste receptacle	10	
10. Reapply the dressing, using the fine mesh gauze, sterile 2 x 2's, 4 x 4's and ABD pads as needed. Secure with tape	10	
TOTAL	100	

*MAINTAIN SAT THROUGHOUT THE PROCEDURES.
AUTOMATIC FAILURE IF VIOLATED.

Instructor ______________________________ Date ______________________

b.	Remove insert, touching outside surfaces only and place on table with cuffs toward you.	2
c.	Fold back the paper flaps and secure them without contaminating the gloves (crease paper flaps).	2
d.	Apply powder, and (back away from field before applying).	2
e.	Pick up the first glove by the folded edge of cuff.	2
f.	Step back from the field each time you pull a glove on.	3
g.	Pull glove on first hand in one smooth motion.	2
h.	Pick up second glove by inserting fingers of gloved hand under the cuff of the second glove.	2
i.	Don the second glove.	2
j.	Keep your hands above your waist and away from all contaminated surfaces when gloves are on.	2
k.	Arrange the contents of the sterile pack for dressing change.	2
l.	Avoid contaminating field, instruments or gloves throughout procedure.	41

Instructor ______________________________ Date ______________________________

Minimum Passing 60

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ATTACHMENT 1

CONFIRMATION OF QUESTIONS

Pages 8, 9, 10

1. Why is it important to clean instruments and equipment thoroughly before sterilizing them?

   So that the sterilizing agent may surround the object entirely, without resistance.

2. Name two common methods of sterilization.

   Moist Heat Under Pressure (Steam autoclave) and Ethylene Oxide (gas autoclave)

3. What is the recommended temperature for steam sterilization?

   250°F - 270°F

4. Why is steam used more than gas for sterilization?

   Lower cost, penetrates very rapidly, contacts all parts even those which cannot be disassembled, leaves no residue, and is non-toxic.

5. Why should steam not be used in some circumstances?

   The intense heat produced will damage articles such as catheters made of plastic, thermometers, and other plastic devices; glass rubber, and metals will eventually deteriorate from repeated exposure; and steam will not penetrate some materials such as oils, grease, and powder.

6. Name four advantages for the use of Ethylene Oxide as a sterilizing agent.

   a. It is effective against all types of micro-organisms.
   b. Will not damage or corrode instruments.
   c. It penetrates through all types of dry material.
   d. It's not necessary to use high pressure or high temperature.

7. Name three disadvantages of Ethylene Oxide use.

   a. Direct contact will burn or blister the skin.
   b. Highly flammable.
   c. Toxic if inhaled.

8. How will you know that a package has been processed in the sterilizer?

   Autoclave tape exposed to steam will have brown stripes on it's surface due to the intensity of heat. Gas sterilizer tape is light green; dark green stripes appear on it after exposure.

9. You have a large linen pack for the operating room which you have been asked to sterilize. You notice its measurement is 12" x 12" x 22". Should you attempt to steam autoclave this package? Why?

No. Studies have proven that sterility cannot be guaranteed for packages of larger size due to limited steam penetration.

10. Why should it be desirable to use disposable products for patient care when possible?

The sterility of the item is guaranteed indefinitely. It's become possible for the nursing staff to devote more time to nursing care and less time to caring for equipment.

11. Steam autoclaved supplies may not be stored until what has been accomplished?

They have been left on the wire mesh tray until cool and dry, you have insured that the cabinet used for storage is dust free, and the older supplies are rotated toward the front to insure their use before the expiration date.

12. How soon may items be used after gas sterilization?

4 - 48 hours airing time (according to the item)

Page 12

1. How should hand washing be accomplished before performing a sterile procedure?

2-4 minutes under running water with surgical soap. Phisohex or Betadine could be used as the soap.

2. What is important about selecting a work area for sterile equipment?

It must be clean and dry and ideally should be waist high.

3. When should you open a sterile pack? (In comparison to its' use).

Avoid opening the sterile pack until ready for use.

4. How should you open a sterile wrapper?

Touch only the outside of the wrapper when opening a sterile pack. The inside is sterile and must remain this way. Use the folded back corners or tabs to open and expose the contents.

5. What do we mean when we say the SAT procedures depend on "sterile to sterile" and "contaminated to contaminated"?

Contaminated articles should never touch sterile articles, they can only touch contaminated ones and remain within the bounds of sterile technique principle.

6. What is the purpose behind the principle, "Do not reach, talk, or cough over a sterile field?"

In doing any of these over a sterile field, gravity will pull microorganisms from our hands, clothes, nose, and throat down into the sterile field, contaminating it.

Page 19

1. What are Montgomery Straps and when are they used?

They are adhesive straps which may be placed along the sides of a large wound area to hold a dressing in place. Their use is intended to minimize skin irritation caused by frequent removal of adhesive tape.

2. What is a T-Binder? When would you use this type of binder?

It's used to keep dressings of the perineal area (genital or rectal area) in place after surgery. (See diagram on page 18)

3. What do you do when a dressing seems to be stuck to the wound?

Moisten the old dressing if it is hard and dried to the wound, use normal saline (sterile).

STUDY GUIDE AND WORKBOOK 3ABR90230-II-6

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

APPLICATION OF HEAT AND COLD

June 1975

AIR TRAINING COMMAND

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-II-6
June 1975

APPLICATION OF HEAT AND COLD

OBJECTIVE

a. Select basic facts and principles related to the application of heat and cold for therapeutic purposes.

b. With instructor guidance and given the necessary equipment, correctly apply external heat and cold to a simulated patient.

INTRODUCTION

Applications of heat or cold to a patient is considered just as much as a therapeutic procedure as giving oxygen. They both require a doctor's order. Heat and cold treatments are frequently ordered for patients to provide comfort. These treatments are not difficult to accomplish but do require considerable understanding in order to benefit the patient being treated.

STUDY ASSIGNMENT

1. Student study reference read prior to class AFM 160-34, pages 4-58 - 4-91. Students can complete review questions prior to class time.

2. Space is provided under each topic for you to make notes during the presentation of this subject.

QUESTIONS

1. Heat and cold applications can be defined as:

2. What are the purposes for applying heat treatments?

3. List the types of heat treatments.

a.

b.

This supersedes SW 3ABR90230-II-3, February 1975

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c.

d.

4. List the purposes for applying cold applications.

a.

b.

c.

d.

e.

f.

5. List two types of cold applications.

a.

b.

6. What are the underlying principles guiding the application of heat and cold?

7. When is Sterile Aseptic Technique (SAT) used in applying heat and cold treatments?

8. When is Medical Aseptic Technique (MAT) used in applying heat and cold treatments?

9. List the equipment used when applying heat and cold treatments.

   a. Hot water bottles

   b. Aquamatic K-Pad

   c. Ice bags and ice collars

   d. Basins, buckets, sitz bath, bathtub

   e. Software materials

10. Case Study: Read the following case study and complete the assignment for class discussion.

John Phillips was admitted to the hospital 30 mintues after he twisted his knee playing basketball. The doctor ordered a pain medication, strict bedrest and cold applications upon admission. The following day the doctor cancelled the cold treatment and ordered continuous moist heat to the knee area.

   a. Identify the purposes of the applications:

   b. Select the equipment needed.

REVIEW QUESTIONS

1. Generalized body warmth can best be provided by using______________________________.

2. Superficial circulation can be reduced by applying______________________________.

3. The selection of a heat or cold application is based on______________________________,

______________________________, and______________________________.

4. Explain three ways a medical specialist provides safety for a patient receiving heat or cold treatments:

   1.

2.

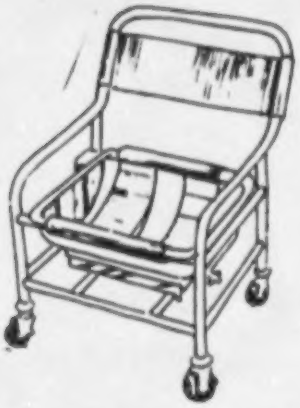
3.

5. How are patients protected from possible infection if they have an open wound?

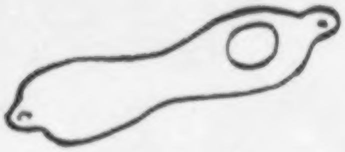
6. Why are cloth covers or towels placed between the apparatus and patient?

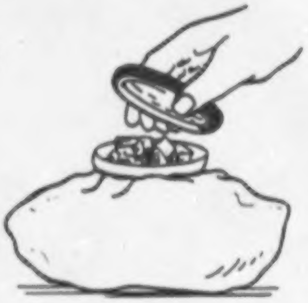
7. What type of treatment would be used to localize an infection such as a boil?

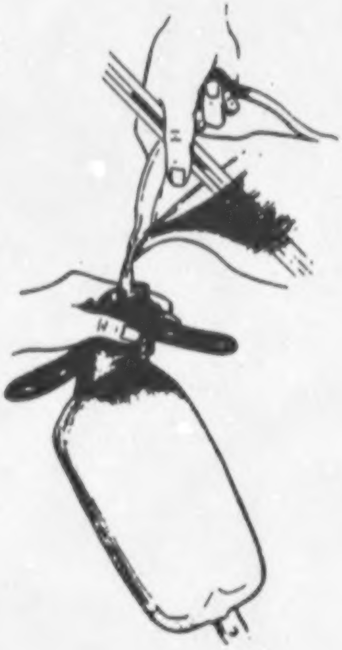
8. What is the purpose of a sitz chair?



PROCEDURE FOR HOT WATER BOTTLE OR ICE BAG/ICE COLLAR





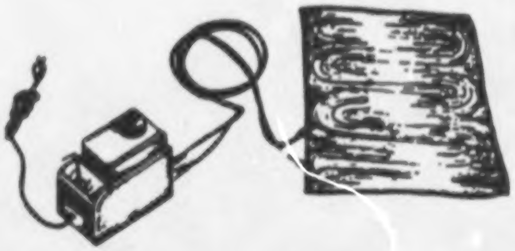


1. Examine bottle for defects.
2. Hot Water Bottle:

   Check the water temperature (110 - 125°).

   Ice Bag:

   Crushed ice.
3. Fill the bottle 1/2 - 2/3 full.
4. Expel the air and seal the bottle.
5. Wipe dry and recheck for leaks.
6. Cover the bottle with a cloth cover.
7. Explain the procedure to the patient.
8. Make the application to the stated area and secure it in place.
9. Make the patient comfortable. (Neatness and position.)



PROCEDURE FOR AQUAMATIC K-PAD

1. Place the reservoir on a flat stable surface.
2. Fill reservoir with distilled water.
3. Secure the tubing to the reservoir.
4. Set the thermostat at 100-105° F.
5. Turn the K-Pad on and remove the key.

6. Explain the treatment to the patient.
7. Cover the area to be treated with a cloth cover or towel.
8. AVOID folding the pad or kinking the tubing.
9. Secure the pad in place. (Gauze ties or towel.)
10. Make the patient comfortable. (Positioning and neatness.)

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DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

NURSING CARE OF THE SURGICAL PATIENT

June 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

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Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-II-7
June 1975

NURSING CARE OF THE SURGICAL PATIENT

PREOPERATIVE CARE

OBJECTIVES

a. Select the basic patient needs and nursing care approaches for the surgical patient.

b. Given the necessary equipment and instructor guidance, correctly prepare a complete postoperative unit. 65 percent of the items on checklist 3ABR90230-II-7b must be accomplished.

INTRODUCTION

As a new specialist, it will be impossible for you to know about every disease and each type of surgery. Specific information and specific nursing care will be discussed later in this course and will also be a part of your future OJT.

There are many things common to the care of surgical patients in general. This unit has been designed to give you general knowledge in the care of the surgical patient. You will find caring for the surgical patient very enjoyable and satisfying as you will have the opportunity to use a large number of your skills in a short period of time.

Adequate preparation of the patient is a key part of successful surgery and optimal recovery. You, as a Medical Service Specialist, will perform much of this preparation in our Air Force hospitals.

This supersedes SW 3ABR90230-II-4, October 1974

INFORMATION

Literally speaking, PREOPERATIVE CARE includes all phases of the preparation of a patient for a surgical procedure. To help you develop an overview of what is involved and what is the expected result of optimum patient preparation, this material has been developed under the categories of principles and procedures.

1. Principles

A number of principles form the basis for the overall plan of preoperative care. The principles are stated in terms of the purposes for the care given, and how numerous people contribute to that care.

a. Purposes (may be called goals)

(1) To avoid unnecessary anxiety.

Everything which we do is aimed at making the patient's operation a safer and more acceptable experience. Careful explanation in positive terms and a sincere kindly manner is essential.

(2) To prevent any unnecessary patient trauma as the result of surgery.

You will see how emptying the digestive tract, removal of hair and supporting the many contributions of allied health personnel are vital in achieving this goal.

(3) To promote rapid recovery after surgery.

Prior teaching of the patient regarding what to expect after surgery as well as the careful carrying out of general preparatory procedures will support this.

b. Sources

By this time in your training program you are quite aware of the fact that nursing service personnel are the only people who are in 24-hour contact with the patient. As a general rule we are also the last people to see that patient and to assure his complete preparation before he is placed on the operating table before the anesthetist and the surgeons. However, in normal circumstances, many people contribute to the patient's preparation between hospital admission and the hour of surgery. Your awareness of the roles of various health personnel will help you to function with greater efficiency and intelligence.

(1) Physician

The physician will examine the patient thoroughly and schedule diagnostic tests. Some of these tests are mandatory to comply with current professional standards of health care. Count of blood cells, urinalysis, and chest x-ray are required items along with electrocardiograph in some instances. The placing of these reports or the checking to see if the reports are present in the clinical record may be assigned to the Specialist. Professional consultations are often obtained so that a complete evaluation and the best recommendations can be obtained. This evaluation of the patient and early plans for surgery often take place in the Air Force clinic.

As surgery is planned, the physician will discuss it with the patient, his family and the nursing staff.

(2) Anesthetist

His concern is the readiness of the patient's system to undergo anesthesia. Often the anesthetist will see the patient for purposes of his/her own evaluation and as a courtesy to the patient. The type of anesthesia the patient is to receive is usually discussed. You may take the patient to an anesthesiology briefing or show the anesthetist to the patient's room.

(3) Dietitian

May see the patient to discuss any dietary changes which are needed before or after surgery. You may be asked to request this service if applicable.

(4) Physical Therapist

May initiate a program of therapy immediately which will help improve muscle tone before the operation. An example of this would be leg exercises before surgery to correct a knee injury received in playing football. He will also discuss necessary post-operative exercises the patient will need to regain maximum function after surgery. You may be asked to take a patient to this department or to notify him of an appointment.

(5) Chaplain

Many patients will wish to speak with a chaplain. Frequent visits to the nursing units are made by military chaplains and as a rule, a chaplain trys to greet each patient whose faith falls in the particular group over which he watches. If a patient has not had the opportunity to speak with a chaplain and wishes to do so, nursing personnel must notify him promptly so he can make a special visit. You may be asked to call the chaplain.

(6) Nurses and Specialists

Nursing personnel will have the responsibility for carrying out much of the appropriate teaching of the patient as well as the actual physical preparation.

Questions

1. What are three goals of preoperative care?

2. Why should you be aware of the contribution of other members of the health care team?

2. Procedures and preparation

a. Psychological (emotional) preparation

When a patient enters the hospital for an operation, it is only natural that he regard the situation as one of the most important events in his whole life. The degree to which the experience constitutes a stress situation will vary from patient to patient. What are some of the things which may be influencing his attitude or reaction? Some of the things which you should consider in attempting to understand and communicate with your patient are:

How does he accept his problem, the treatment and the hospital environment?

How does he feel about having his physical person altered in some way?

What does he understand about the function and responsibilities of hospital personnel?

Is he concerned about situations at home or on the job from which he has been separated?

With these considerations in mind you will be ready to

(1) Relieve fear

Fear of the unknown is so common to mankind in general that we must routinely take steps to change the unknown to the known. In most cases, the more that the patient understands about the procedure and how he will participate, the more successful the operation will be. Many of your patients will not have had an operation before. They have little or erroneous ideas of what to expect. Friends may have told them stories, and today's TV is full of "hospital thrillers." Either of these sources of information are melodramatic and apt to be inaccurate to say the least.

(a) About surgery itself - The patient will want to know

1 Where he will be cut.

2 What will be removed or altered?

3 How will this effect his life from now on?

4 How long will it take to recover?

This information should be given by the physician. A keen Specialist will note when the patient has questions in this area and refer the questions to the doctor or to the nurse who can arrange for the patient to receive more information.

(b) About care - The patient needs to know that

1. Tests and procedures will have to be done before he goes to surgery. Tell him about his pre-opbath, his skin prep and lab tests in advance.

2. Dietary changes can be expected before and after surgery. For example, if a patient was to have an intestinal operation, he may be on liquid diet for a couple of days before surgery to aid in the passing of products of digestion. He will not be allowed anything by mouth for several hours preceding surgery. He will be started again on liquids when he is first allowed to eat after surgery.

Receiving a prior explanation of such a simple thing as this is reassuring to the patient. He will feel that everything is moving along normally as each change occurs.

3. Pain medication is available, but is usually given only if he requests it.

4. He will be in the recovery room after surgery generally one to three hours.

(2) Preparation for special procedures or equipment

Your patient often comes from the operating room with many gadgets he has not seen or used before.

(a) Explain that he can expect to have a urinary catheter, a stomach tube, a cast or an unusual dressing when he awakens.

(b) Demonstrate such things as oxygen or Bird respirator equipment if it is probable that he will be using them. It is much easier for a person to become acquainted with a procedure before than it is after he needs it.

(c) Tell him that his pulse and blood pressure will be checked very often for a few hours.

(d) Explain early ambulation and deep breathing exercises required after surgery. This may help to gain the patient's cooperation even though the movement hurts him.

Questions

1. Psychological preparation of the patient for surgery consists of attempting to do what two things?

2. To help relieve a patient's fear, what are two types of information he may need?

3. Why do we wish to tell the patient about special equipment and procedures before they are needed?

b. Physical preparation

Most of the physical preparation of the patient will be carried out by the Specialist. The following list is not intended for memorization, but to add to your understanding.

(1) Assist with a physical exam.

(2) Collect specimens as ordered and take them to the laboratory.

(3) Give a cleansing enema if ordered. Emptying the lower digestive tract before surgery may help prevent abdominal distention after surgery.

(4) Assist with a preoperative bath if indicated. Many surgeons ask that their patients take a philsohex tube bath before surgery to cut down on skin bacteria.

(5) Shave and scrub the operative site. This is done to remove a source of infection. Sometimes depillatories (hair removing creams) are used instead of a razor. Although a close shave is needed, it is imperative to avoid "knicking or scratching" the skin during a preoperative shave.

(a) Use a hexachlorophene based soap to soak and lather the area to be shaved. Phisohex, surgical soap and G-11 have hexachlorophene as does "Dial" and "Safeguard." This substance kills germs and leaves a protective film for several hours. You should avoid using alcohol, ether, or other skin cleansing agents after hexachlorophene soap as they remove the protective film.

(b) Use a safety razor - disposable or one which has been sterilized since the last use. Other types of razors are too dangerous or don't shave closely enough.

(c) Start out by shaving in the direction the hair grows. Shift to against the hair growth to complete a close shave in non-tender skin areas.

(d) Shave an area considerably larger than the incision. See illustrations.

(6) Instruct the patient regarding the period during which he should take no food or fluid by mouth.

(a) Usually NPO after midnight.

(b) Empty water pitcher and glass after "lights out."

(c) Smoking is also not advised during this time due to its ability to cause lung congestion, constrict small blood vessels and interfere with oxygen absorption.

(7) Encourage rest so that the patient's energy will be saved. Sleeping medication will often be given the night before surgery.

(8) Take and record TPR and BP within two hours of scheduled surgery. The importance of this careful check cannot be overemphasized. An elevated temperature may indicate an upper respiratory infection which would be aggravated immensely by surgery. If the vital signs indicate a problem to the nurse, she will notify the surgeon who can reevaluate the patient.

(9) Remove the patient's dentures, partial plates, bridges, or any other prosthesis. Any of these removable things worn by the patient may get in the way of the surgeon or the anesthetist. The patient and all of his property must be protected.

(10) Remove wigs, hairpins, clips, combs, nailpolish and lipstick. The patient's lips and nails must be free of cosmetics for the anesthetist's observation as they turn pale or cyanotic when the patient is getting too little oxygen. Hairpins, clips, and combs could injure the patient.

(11) Ask the patient to empty his bladder just before his preoperative medication is given. If a urinary catheter has not been inserted, we must be sure that the patient "voids" at the last practical moment so that excessive urinary bladder pressure does not build up during the anesthesia period.

(12) Put a clean pajama top on your patient, front in back, and do not fasten. Pajama bottoms should be clean also if worn. If surgery is performed on any part of the body other than the head, neck or arms, you will be required to see that the pajama bottoms have been removed. Removal of any clothing items can be done when the patient no longer has a need to get out of bed.

(13) Instruct the patient to remain in bed after his preoperative medication has been given. Barbiturates and narcotics cause some patients to become dizzy or unsteady on their feet.

(14) Assist with the bed to litter transfer of the patient when the operating room personnel come for your patient. This is not only a courtesy, but a responsibility.

Questions

1. What does Surgical Soap, Phisohex, and G-11 have that makes them excellent cleansing agents?

2. Why is smoking contraindicated preoperatively?

3. What should you do when you discover that your patient has a 101° temperature just before surgery?

4. When should the patient empty his bladder for the last time preoperatively?

c. Administrative procedures

(1) Collect all the current chart sheets and the addressograph plate and place them in the patient's metal chartbook. You must be sure that the latest lab and x-ray reports have been included as well as the operative permission, doctor's orders, nurse's notes, and the TPR record.

(2) Remove the patient's jewelry and valuables and place them in the appropriate place. Patients are usually allowed to wear their wedding band. You should tape the ring in place.

(3) Assure the presence of a patient ID bracelet. It is the only sure source of patient identification until he completely recovers from anesthesia.

(4) Review the preoperative checklist for completeness of your patient's preparation. Most hospitals have a checklist with much of the physical and administrative preparation listed on it as a guide. The Medical Service Specialist frequently assists the nurse in checking off these items. The checklist is usually completed and signed by the nurse when the preoperative medication is given. The checklist must be signed before you may allow the operating room personnel to leave the ward with the patient and the records.

Questions

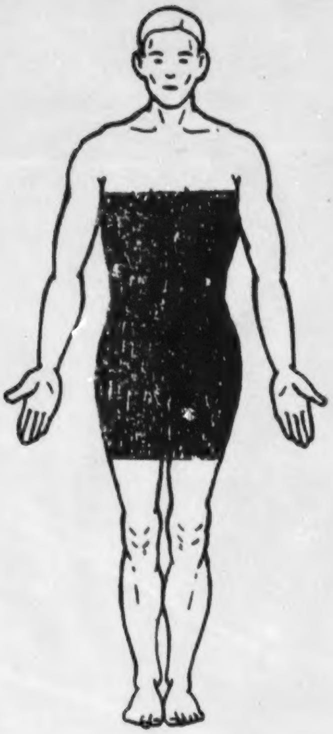
1. Urinalysis and hematology lab reports for Sgt Graham just came to your ward. You placed the slips in the doctor's box. Sgt Graham is going to surgery at 1000. What needs to be included in the preparation of the chart?

2. You just discovered that Sgt Graham's ID bracelet blurred due to arm soaks he has been receiving. What should you do?

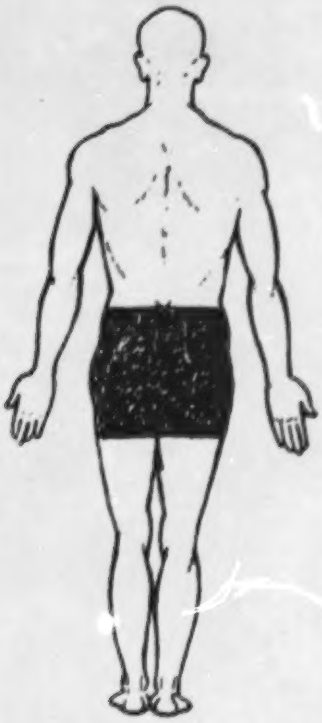
3. Who must complete and sign the preoperative checklist? What type of things can you expect to find on this list? When must this be done?

4. What are some important safety principles to be remembered in your care of the preoperative patient?

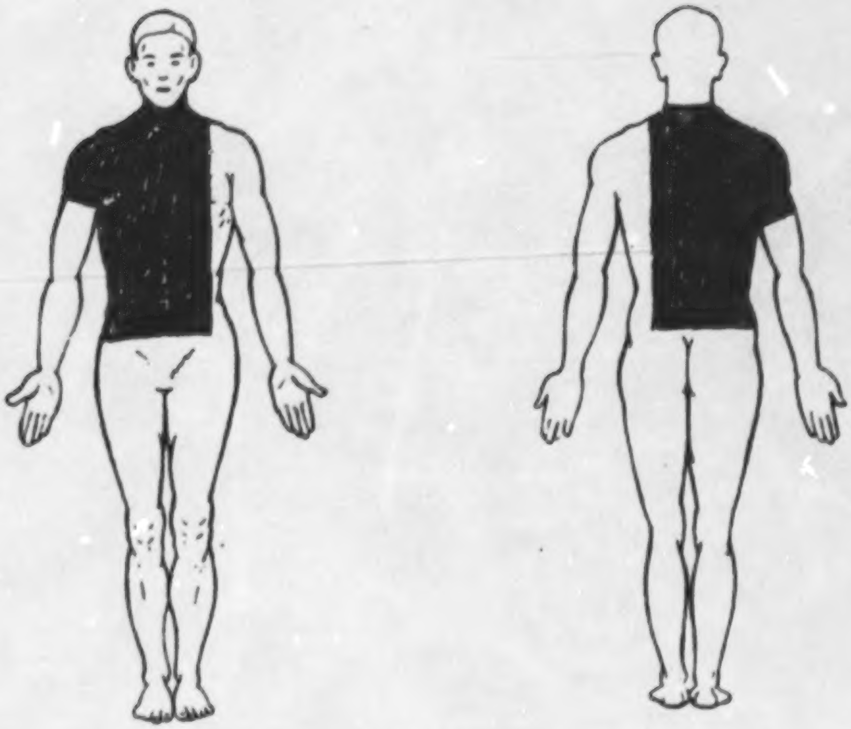
EXAMPLES OF SURGICAL SKINPREPS



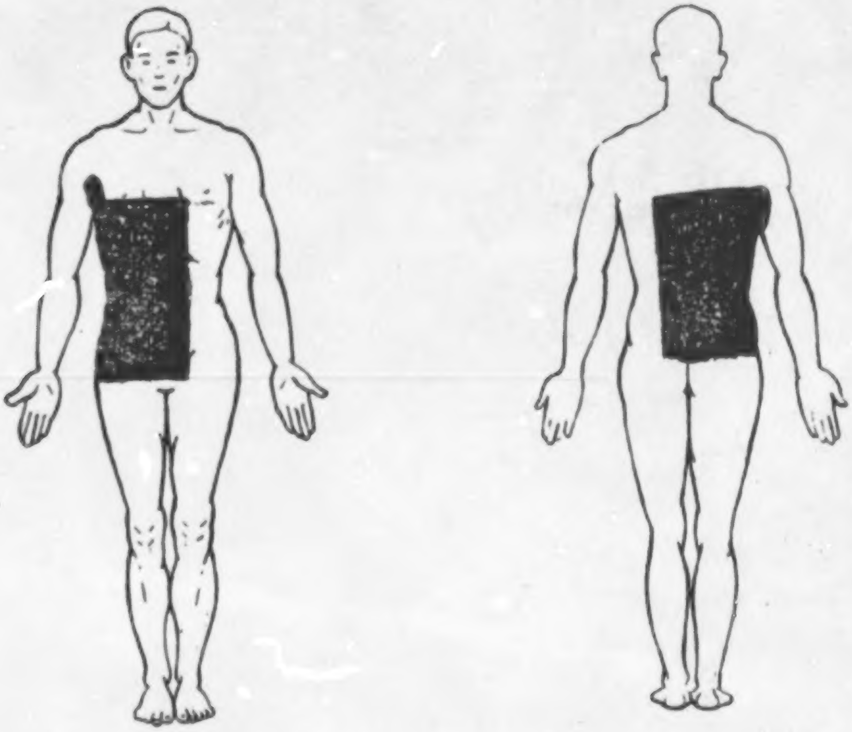
Abdominal Surgery



Hemorrhoidectomy



Right Chest
Sugery



Nephrectomy

SAMPLE

Preoperative Checklist

		Yes	No
1.	Hemoglobin and hematocrit	( )	( )
2.	Urinalysis	( )	( )
3.	Chest x-ray	( )	( )
4.	Electrocardiogram	( )	( )
5.	Dentures removed	( )	( )
6.	Contact lenses removed	( )	( )
7.	Operative permit signed	( )	( )
8.	Drug sensitivity	( )	( )
9.	Blood available for transfusion (#__________ units)	( )	( )
10.	Identification band checked	( )	( )
11.	Pajama top reversed and unsnapped	( )	( )
12.	Pajama bottom removed	( )	( )
13.	Jewelry taped or removed	( )	( )
14.	Patient voided before pre-op medicine given	( )	( )
15.	Pre-op medication ____________________ and ____________ given at ____________	( )	( )
16.	Remarks		

This is a sample of the type of checklist many hospitals use preoperatively. Sometimes it is printed on the reverse side of the permission form.

____
WARD NURSE'S SIGNATURE

____
O.R. NURSE'S SIGNATURE

POSTOPERATIVE CARE

POSTOPERATIVE CARE is care which is designed to prevent complications, to relieve discomfort and to rehabilitate the patient after surgery. Necessary information will be presented under three main headings: Principles, Patient Needs and Care Approaches, and Complications.

1. Principles

a. Provide the optimal setting

(1) Recovery Room - It is staffed and equipped to provide immediate postoperative care until the patient's condition stabilizes. Whenever possible, depending on the size and facilities of a hospital, a recovery room has been established. This special care unit is located very near the operating room. The advantage of moving the patient a short distance immediately after his operation, of having the anesthetist or surgeon near, of having special emergency equipment in the area, and of having constant observation by people who are not interrupted by other duties is both efficient and economical.

(2) Regular nursing unit - Not the place of choice for immediate care, but is used out of necessity when a hospital is very small or when surgery is performed outside normal duty hours. In this circumstance, both immediate and long range care will be given by the regular ward staff, including the new Specialist.

b. Identify and care for priorities

(1) Immediate - Usually includes only a few hours after surgery. Special attention will be given to:

(a) Maintaining an Open Airway. When a patient is unconscious, structures in the throat relax and often occlude the airway. To prevent this from happening, you will have to position the patient in a special way or use an artificial airway or both. If the patient must remain on his back, hyper-extend the neck. Place a rolled towel under the shoulders. If allowed, you may place the patient on his side. This often opens air passages and will also help prevent aspiration of secretions. Use of an airway will hold the base of the tongue forward and keep the airway open.

(b) Careful monitoring of vital signs. TPR and BP are particularly important to the operative patient as a change or deviation from normal may be the first sign of difficulty.

(c) Protecting the patient from injury. Until a patient is alert and responsible he will need to be protected from such things as falling out of bed, and disturbing tubes and dressings.

(d) Close observation. Dressings, tubes and any special equipment must be checked often for proper condition.

(e) Constant attendance. The patient must not be left alone until he is aware of his surroundings and you have evidence that his condition is stabilizing. This evidence can take the form of steady vital signs, positive response to questioning by the Specialist and other signs that indicate that the patient is progressing well following surgery.

(2) Long-Range - Continues after the patient's condition has stabilized. The emphasis is on speedy return to normal function. If conscientious immediate postoperative care has been accomplished, the possibility of complications in long-range care is greatly reduced. Long-range care, however, does not exclude careful monitoring of the patient's condition. Rehabilitational needs must be included if a successful long-range care plan is to be achieved. This is especially true if the patient must adjust his style of living following surgery. Many patients may have to modify their working and recreational habits to some degree, not necessarily for the remainder of their lives, but possibly for a given period of time after discharge from the hospital. The Specialist may play a vital role in this all-important rehabilitational process, not only in the physical care given to the patient, but in emotional support and patient understanding of his health needs as well.

2. Needs and Approaches (After Recovery Care)

a. Adequate ventilation and respiration

(1) Position the patient - Fowler's position (sitting up) or semi-Fowler's (semi-reclining) will make it easier for the patient to breathe. The physician must authorize position changes. Placing the patient in Fowler's or semi-Fowler's releases some of the resistance the rib cage and diaphragm exerts on the lungs during inspiration. These positions may also prevent secretions from blocking the upper airway.

(2) Coughing and deep breathing - coughing is the body's own way of removing secretions from the lungs. Gas anesthesia irritates the lung tissue and causes additional mucus. Prevention of penumonia, pooling of these secretions, is a vital part of postoperative care. Deep breathing will achieve better expansion of the patient's lungs, and will also stimulate coughing. Although coughing and deep breathing are desirable, they may also be very uncomfortable, even painful for the postoperative patient. It is your job as the Specialist not only to encourage coughing and deep breathing, but also to prevent as much discomfort as possible. Some ways the specialist may accomplish this are as follows:

(a) Assist the patient to a sitting position - elevate head of bed.

(b) Support the incision. The use of pillows supported by your hands against an abdominal incision will give the needed support.

(c) Offer tissue and emesis basin as needed.

(d) Check to see if pain medication can be given prior to coughing.

(3) Intermittent positive pressure breathing. If the patient is unable to remove the secretions by coughing or if the patient has difficulty achieving adequate expansion of the lungs, the I.P.P.B. machine may be ordered to assist the patient. Oxygen or compressed air mixed with medication in the form of a fine mist, is forced into the lungs to loosen and liquify secretions, thereby enabling the patient to remove them more readily by coughing. You will be introduced to this form of therapy during the next unit of instruction.

Questions

1. The optimal conditions and location for providing immediate postoperative care are found where?

2. Name five important things to do as part of immediate postoperative care?

3. What is the major emphasis of long-range postoperative care?

4. Why is so much said about coughing and deep breathing after surgery?

5. Name four things you can do to make coughing and deep breathing easier?

6. Why are I.P.P.B. treatments sometimes given after surgery?

b. Adequate Vital Signs

(1) During the recovery period you check them every 15 minutes until stable. This is standard procedure. A shorter time interval may be indicated in some cases. As stated earlier, vital signs many times are the first indication of a change. They will become an invaluable indication of patient progress to both nursing and medical personnel.

(2) Decrease frequency as ordered. The physician will order longer time intervals as the patient's condition improves. After a day or two, the patient may be on routine vital signs of once or twice a day.

c. Protect the patient from injury. To restate, until the patient is alert he must be protected from injury. This is another reason for the constant attendance aspect of immediate postoperative care. The specialist must insure the patient's safety by:

(1) Using bedside rails. This will protect the patient from falling out of bed. They will be retained until the patient is awake and aware of his surroundings. Litter straps or rails will also be used when moving the patient from the recovery room to the patient's room.

(2) Securing all tubing. I.V. needles, urinary catheters, drainage tubes and similar equipment must be secured at several points to insure patient safety. These tubes should be secured at two or three of these points according to the type and function of the tube.

(a) At the point of exit from the body

(b) A few inches from the exit point

(c) Secured to the bed with a tape tab and a pin (except for I.V. tubing)

The purpose for securing at point one above is to insure that the tube stays in the proper position and doesn't slip. Securing a second time a few inches from the exit point will take the tension off the exit point should a strain be put on the tubing due to patient movement. Securing to the bed might prevent strain due to tipping over a drainage bottle, thus damaging the equipment and possibly affecting the patient's condition.

d. Prevention of Infection

The best way to prevent postoperative infection is to avoid sources of infection. The skin is the natural barrier to infection. Whenever it is broken, even under aseptic conditions in surgery, the barrier has been broken. Also the surgery itself may have lowered the patient's resistance to infection. Methods used to prevent infection include:

(1) Assigning the patient to a room where no other patients are known to have an infection. Also, certain surgical cases should be kept separated due to the nature of the surgery.

(a) Clean cases - include heart surgery, hernia repair, etc.

(b) Dirty cases - include ruptured appendix, tracheostomy, etc.

Every possible attempt must be made to separate these clean and dirty cases to support principles of good care.

(2) Observe strict S.A.T. You will remember that the purpose of surgical aseptic technique is to protect the patient from infection. S.A.T. must be used for dressing changes and would cleansing to prevent infection. Some other rules to follow include:

(a) Dispose of soiled dressings properly. They should be placed in plastic bags and incinerated. (Substitute paper bags only when necessary.)

(b) Dressings should never be placed in the patient's trash receptacle. This would pose an additional source of infection for the patient and for any other person who handles his trash or moves about in his area.

(3) Support good patient hygiene. This will add to the clean environment which is essential to the postoperative patient. Keeping the patient's skin as clean as possible will promote the healing process and will also make the patient feel better. (Regular bathing, oral hygiene, change of pajamas and bed linen.)

e. Relief of Pain

The patient's pain may be due to something other then the surgery itself. Check I.V. tubing, catheters, etc., to see if they might be the source of the pain. Sometimes a minor change in position or adjustment of tubing may relieve the pain. Try to eliminate unnecessary problems and report any patient complaints of pain to the nurse. Pain medication is usually ordered by the physician immediately after surgery. However, many times it is only given if the patient requests it or complains of pain. Many patients who are normally strong and healthy need few, if any, medications for pain after surgery, provided nursing care is good.

f. Need to Void

The patient should be able to void within 8 hours after surgery but anesthesia may have inhibited his muscle control. Every effort should be made to get the patient to void on his own. The specialist may assist the patient by: [(3) and (4) according to physician's orders for activity]

(1) Encouraging the patient to try.

(2) Running water in the sink (when available in the room.)

(3) Providing a natural situation. As much privacy as possible and a receptacle.

(4) Helping a male patient to stand and a female patient to sit on a bedpan placed on a chair or a toilet stool.

Catherizing or inserting a tube through the urethra into the bladder is performed only on the physician's order. Current trends in medical practice avoid catheterization until the doctor has deemed it the last resort. Checking and reporting the patient's voiding will be a very important part of your responsibility in giving postoperative care.

g. Early Ambulation

Until recent years, movement of the patient after surgery was regarded as dangerous until he had several days of bedrest following major surgery. Respiratory complications such as pneumonia and atelectasis (blockage of air to a portion of the lung caused usually by a plug of mucous) were relatively common postoperative complications. These complications were thought to be unavoidable until it was found that early ambulation would go a long way towards preventing this. Granted, early ambulation is painful for the patient in some cases. However, the advantages far outweigh the disadvantages. Some general rules for ambulating the postoperative patient follow.

(1) Start as soon as the physician permits. It is most often begun 8 - 24 hours after surgery.

(2) Assist the patient - sometimes, especially the first few times the patient is ambulated. It is wise for two Specialists to assist. The patient's safety must take priority.

(3) Gradually increase as tolerated by the patient. The key words here are as tolerated. You must get the most out of your patient without exceeding his physical limits. At the beginning, just walking around the bed or room will be all the patient can tolerate. Later he will be able to walk in the hall with less and less assistance from you.

(4) Observe for fatigue. When ambulating a patient, the specialist must constantly be observing the patient. The specialist must be aware that a patient may become fatigued very quickly and find a place where the patient can rest. Rather than let your patient fall, you should not be embarrassed to ease him to a sitting or lying position anywhere should he become pale, sweaty and faint.

h. Hydration and Nutrition

For the postoperative patient the healing process is vitally dependent on good nutrition and adequate fluid intake. Even given the best nursing care available, the healing process will be impaired if the body does not receive the proper "raw materials" in sufficient amounts. The average adult intake per day is 2000 cc to 2500 cc.

(1) I.V. Therapy - This method will be used until the patient can maintain adequate oral intake. I.V.s for nutritional purposes usually contain either glucose or dextrose (simple sugars). They may also include needed electrolytes such as sodium or potassium as well as vitamin supplements.

(2) Oral Intake - I.V. therapy will maintain the patient for a period of time; however, it is desirable for the patient to progress to adequate oral intake.

(a) Started gradually. This depends on the type of surgery the patient has had and how well he tolerated it.

(b) Advanced from liquid to solid. If the patient had abdominal surgery, for instance, he may start with ice chips. If he tolerates this he may have sips of water, then a clear liquid diet. If this tolerated well, he may advance to a full liquid diet and then progress to a soft or regular diet. The main factor is how well the patient tolerates the diet. The physician may state the beginning diet and leave the progression up to the nurse; or he may just state "diet as tolerated." Reinstatement of oral intake usually depends on evidence of activity of the digestive tract.

Questions

1. The taking of vital signs was given much emphasis in this lesson. Why are they of particular importance here?

2. Where and how should you secure drainage tubing?

3. Prevention of postoperative infection is an important responsibility of all nursing personnel. How is this accomplished? (3 things)

4. Relief of pain is important to the patient. What, besides pain medication, may help relieve his pain?

5. What should the nursing approach be for dealing with a patient's inability to void?

6. What do we hope to accomplish by ambulating the patient as soon as possible?

7. To promote the healing process, we must supply the patient with adequate

______________________________ and ______________________________.

8. What does passing of gas postoperatively usually indicate?

3. Complications

Even with conscientious nursing care, the Specialist must be aware that certain complications may arise. Good nursing care will not always eliminate complications, but it will certainly minimize them.

a. Nausea - A common complication that can be caused by many factors. It may be caused by the anesthesia, the surgery itself, medications, fluids or other causes. The best treatment for nausea is to remove the cause, if possible. As a Specialist your responsibility is to recognize nausea and to

(1) Elevate the head of the bed, if permitted. This may relieve the nausea to some degree and enable patient to avoid aspiration of gastric juices if expelled.

(2) Report the patient's complaint to the nurse. The nurse may then consult the physician to determine steps to relieve the patient. Medication can be given which will reduce the problem.

(3) Place an emesis basin within the patient's reach.

b. Vomiting - Lie nausea, vomiting or emesis can be caused by many factors. If the patient's nausea can be relieved, emesis can be avoided. However, if controlling nausea is unsuccessful, there are a few measures that may be taken by the Specialist to ease this unpleasant situation for the patient.

(1) Remove emesis basin immediately after use. Provide a clean basin if needed.

(2) Change pajamas and linen if soiled.

(3) Give oral hygiene.

c. Abdominal Distention - Distention is usually caused by trapped flatus or gas in the intestines. It most frequently occurs before the peristalsis of the digestive tract has started.

(1) Symptoms include a swollen and painful abdomen. The swelling will be very noticeable as distention increases and pains become cramp-like in nature. The abdomen becomes rigid instead of soft.

(2) Dangers include weakening or breaking of the sutures. If the patient has has abdominal surgery this is a very real possibility. All efforts must be made to relieve the distention.

(3) Nursing Care

(a) Question the nature of the pain. Is it sharp or dull? Where is the pain located? Is the pain continous or does it come and go (intermittent)?

(b) Check the abdomen carefully, and gently apply mild pressure over the abdomen to see if it is rigid. Note that the nurse or physician may wish to do this so check first. Look at the abdomen to see if there is any swelling.

(c) Change position or ambulate. Ambulating, although sometimes painful for the patient with abdominal distention, is one of the best treatments for it. If the patient cannot be ambulated, mild exercise in bed or changing position may help. Check with the nurse to see what can be done.

(d) Provide privacy for use of bedpan or toilet. This is important anytime but particularly for the distended patient. He may be self-conscious about releasing large amounts of flatus.

(e) Give warn fluids if allowed. This may relax the intestine and allow the trapped flatus to escape.

(f) If all of the preceding measures fail, the physician may order the use of a rectal tube. Although this is not a very pleasant procedure for either the patient or Specialist, it is imperative that the distention be relieved before further damage takes place. The tube should be inserted for about 20 minutes and attached to a small-mouthed container. (This procedure will be clarified at a later time.)

d. Atelectasis or pneumonia - The procedures for coughing, deep breathing and ambulation emphasize the dangers and treatment for atelectasis or penumonia.

e. Hemorrhage - recognizing abnormal bleeding early is one of the best treatments.

(1) Types

(a) Internal - much more difficult to recognize. Must be aware of changed vital signs and color. Pallor (pale skin), decreases Blood Pressure, rapid, weak pulse and restlessness are common symptoms.

(b) External - much easier to recognize. It is usually detected by noting excessive bleeding when making a dressing inspection or change. Note that a little bleeding may be normal so check with the nurse.

(2) Report

(a) Include color - bright red would indicate recent bleeding. Dark coloration would indicate older bleeding.

(b) How much - usually as estimate or by counting the number of dressings soaked through. As a rule, we will only reinforce the dressing which was applied in surgery. Reinforce means to add successive layers to soak up drainage. The physician often wishes to do the first actual dressing change. Later, dressing changes may be delegated to nursing service personnel.

(3) Treatment - the first step is for you, the Specialist, to recognize abnormal blood loss. Most of the treatment is the physician's responsibility.

(a) Possible return to surgery to tie off vessels.

(b) Transfusion or I.V. therapy.

f. Shock - Loss of fluids and electrolytes, trauma, anesthetics and preoperative medications may all precipitate shock. Again recognition (early) is the first step in successful treatment.

(1) Symptoms

(a) Pallor

(b) Fall in BP

(c) Rapid, weak pulse

(d) Cold, moist skin

(2) Treatment

(a) I.V. Therapy

(b) Do not elevate foot of bed

(c) Keep patient warm but do not overload with blankets.

g. Thrombophlebitis - Inflammation of a vein with the formation of a clot. (You have dealt with this condition before in I.V. therapy.) In this situation it is caused by inactivity or excessive pressure on the legs. It is usually found in the extremities where circulation is the poorest.

(1) Signs and Symptoms - A sore inflamed spot or line along the inflamed vein.

(2) Prevention

(a) Avoid unnecessary pressure on the legs. Too many blankets, tight pajamas, etc.

(b) Wrap legs with ace bandages. This will give support to superficial veins and encourage sluggish circulation.

(c) Ambulate or exercise. The best prevention as exercise stimulates return of venous blood to the heart.

h. Infection - always a possibility. Refer to section on prevention of infection.

(1) Signs include

(a) Localized heat - at site of infection.

(b) Redness - indicates inflammation.

(c) Swelling.

(d) Purulent drainage - drainage containing pus.

(e) Increasing pain - many times pain caused by infection will radiate to other parts of the body. Cases with wound infection may be isolated.

(2) Treatment may include antibiotic therapy. The best treatment is prevention.

Questions

1. Three appropriate things for the Specialist to do when a postoperative patient complains of nausea are

2. What things must you do as soon as possible if the patient vomits?

3. Can you name four nursing measures which may be used to relieve abdominal distention?

4. How should you describe amount of bleeding the patient is having?

5. What are four signs of shock?

6. What are some nursing measures used to prevent thrombophlebitis?

REFERENCE

Sutton, Audrey L., Bedside Nursing Techniques, 1969, pp 129-140.

SAMPLE

Postop Observation Checklist

TIME OF RETURN ______________________ BED #__________

PATIENT'S NAME ____

B/P _______________ PULSE _________________ RESPIRATION ___________________

AMOUNT AND TYPE LEFT IN I.V. BOTTLE ____

AMOUNT OF URINE IN DRAINAGE BAG ____

LEVEL OF CONSCIOUSNESS ____

____

DRESSING OBSERVATION ____

____

NEEDS OF PATIENT ____

____

____

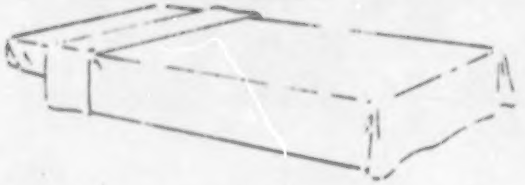
OTHER COMMENTS ____

____

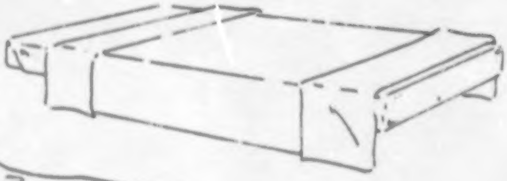
____

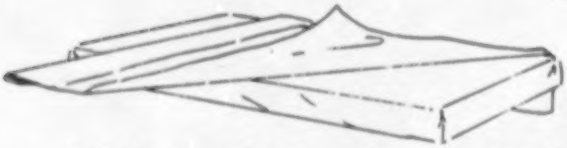
____

POSTOPERATIVE BED MAKING

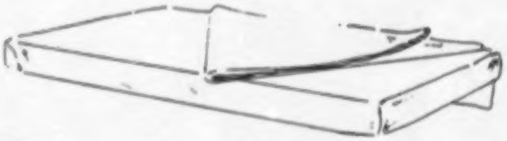


Fold the top covers at foot of bed back over mattress.

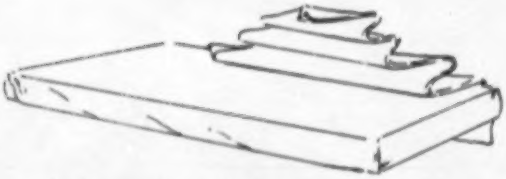




Fold top covers at the foot of bed away from the entrance to the room.



Fold top covers at the head to form triangle.



Fanfold triangle to the far side of bed with point toward the entrance to the room.

Assisting with Coughing and Deep Breathing

PROCEDURE

1. Elevate head of patient's bed.

2. Supply patient with emesis basin and tissues.

3. Support abdominal or chest incision with a pillow and your firm hand.

4. Instruct patient to cough deeply to raise mucus.

5. Assist with several attempts to cough, alternating with a few moments rest and 2 to 3 deep breaths.

6. Remove secretions and tissues from the patient.

Assisting a Patient with Early Ambulation

PROCEDURE

1. Bring patient to the sitting position in bed by elevating the head gatch.
2. Use principles of good body mechanics to
    a. Rotate patient to a dangling position.
    b. Place feet on chair or stool.
    c. Put shoes or stable slippers on patient.
    d. Put on robe.
    e. Assist patient to stand.
3. Check patient for dizziness or weakness.
4. If patient has an I.V.
    a. Use wheeled I.V. pole.
    b. Get another person to assist you the first time.
    c. Use care to avoid bumping needle or pulling on tubing.
5. Allow patient to hold onto you but be ready to steady them if necessary.
6. Allow patient to walk at his own speed.
7. Return patient to bed using principles of good body mechanics and positioning.

PROCEDURE - PREPARING THE POSTOPERATIVE PATIENT UNIT

Task Elements

1. Turn the mattress over.

2. Put on the bottom sheet, letting approximately an inch fall over the foot of t mattress.

3. Miter the upper corners of the bottom sheet.

4. Tuck in the bottom sheet and the draw sheet tight and smooth.

5. Put on the top sheet even with the head of the mattress, center it and leave i untucked.

6. Fold the bottom edge of the top covers upward forming a wide collar. (Fold to about 6 inches from the foot of the bed.)

7. Fold the top covers downward to form a six inch collar.

8. Triangle fold the top bed covers (as in the diagram).

9. Fanfold the triangle to the side of the bed away from the room entrance.

10. Push the mattress to the head of the bed.

11. Put on a clean pillowcase.

12. Place bed protector in center of bed.

13. Leave the top covers untucked at the side.

14. Tuck the pillows in the bars at the head of the bed.

15. Place an emesin basin, tissues, sphygmomameter and stethoscope, and a trash rec on the bedside stand.

16. Place an I.V. pole at the head of the bed.

17. Fold a blanket in half in the middle, log roll it and place it at the foot of t bed.